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AND THEN CAME FORD

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CHARLES MERZ

THE GREAT AMERICAN BAND WAGON
AND THEN CAME FORD

A N D T H E N C A M E
F O R D

BY
CHARLES MERZ

DECORATIONS BY
HARRY CIMINO



BINDERY SEP 11 1958

DOUBLEDAY, DORAN & COMPANY, INC.

GARDEN CITY, NEW YORK

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PRINTED IN THE UNITED STATES AT
THE COUNTRY LIFE PRESS
GARDEN CITY, N. Y.
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FIRST EDITION

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To
S. E. P. M. and C. H. M.

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ACKNOWLEDGMENT

Material for this book has been drawn chiefly from contemporary sources. The New York Times Index and the files of the New York World have been especially helpful. Mark Sullivan's *Our Times* has suggested sources of material descriptive of America before the age of motor cars, and Allan L. Benson's *The New Henry Ford* has a compact story of the organization of the Ford company.

The two books written by Henry Ford in collaboration with Samuel Crowther, *My Life and Work* and *To-day and To-morrow*, have been of great service; and the comments of Mr. Ford on pages 17, 30, 49, 67, 68, 69, 89, 94, 186, 194, 200, 221, 242, and 306 have been quoted from these books by the kind permission of the publisher.

C. M.

New York,

January 1, 1929.

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CHAPTER I

AMERICA BETWEEN TWO FRONTIERS

THREE giants set the stage for Henry Ford. It is no accident that it fell to the lot of a man born in 1863 to profit in his mature years, at the turn of the century, from three mighty forces set in motion in his boyhood.

In 1864 the open-hearth process was developed and the modern age of steel began.

In 1865 the first short stretch of pipe line destined to fuel a parade of twenty million motor cars was laid in the valley of the Allegheny River.

In 1869 two sawed-off locomotives faced each other on a ridge in Utah while the nation waited, the last spike was driven, and word went forth by telegraph that a continent had been spanned with iron rails.

Steel, oil, and transportation: these were the giants who set the stage for Henry Ford.

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It takes imagination in these days when Kansas City looks like Boston, Titusville has a gay

white way, and Denver is only a lap behind New York, to picture the two unlike Americas that existed side by side in the first years of an age of steel.

On one side was the frontier America: an America in which not more than four million people lived in the whole two thirds of the nation west of the Mississippi; an America in which only a third of the Iowa farm land destined to send the retired sons of Iowa farmers to Palm Beach and Pasadena in another forty years had as yet been broken by the plough; an America in which a large part of what is now the wheat belt was still marked down on the maps in the school geographies as the "Great American Desert."

Over this frontier country roamed the trapper with his gun, the settler with his wagon train, the bad man with his thirst for rum, and the missionary with his Bible. Land was cheap but transportation difficult. Beyond the railheads of the few trunk lines that had begun to pierce the foothills of the Rockies the West was linked by pack-train and by stagecoach.

Ben Holladay had a through coach line from Fort Leavenworth to California and charged five hundred dollars for the trip. Denver was a transfer point. Beyond Denver passengers slept at night in roadside forts. Trade followed the

flag, the river valleys, and the latest rush for gold. Dodge City, Kansas, was the gilded home of vice. The pony express still carried the mails. Buffaloes swarmed the prairies. For miles on end the only towns were the portable towns of the railway men, the travelling "Hells on Wheels."

It was an untamed West, and the white man had not finished his struggle with the red man. From 1864, when the open-hearth was developed, until 1876, when the steel industry came of age, the relentless march of empire carried a stubborn battle up and down the plains. "It is almost impossible to civilize the American Indian," said one of the maxims in the spelling books of 1860. And while small boys with creaky pencils copied this pensive theory on their slates in a thousand schoolrooms on the eastern side of the Mississippi, the East and the West still fought it out.

Each forward thrust of a new civilization provoked a counter thrust. In 1864 the Cheyenne attacked Ben Holladay's coach line east of Denver, and the frontier was ablaze. In 1868 the Cheyenne swept through western Kansas, and a new army took the field. In 1876, while the railways in the East were offering cut rates to passengers bound for the Centennial at Philadelphia, a band of Sioux under the leadership of Sitting

Bull and Crazy Horse annihilated Custer's troops at the battle of the Little Bighorn.

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And yet, in these same years, new forces in the East were shaping a civilization that was irresistible. It is an amazing chapter in the story of America that parallels the advancing frontier in the West with the advancing frontier of a new industrialism.

In the same year that twenty-five thousand troops were thrown into the field against the Cheyenne on a line from Minnesota south to Kansas, thirty refineries were built in Cleveland and John D. Rockefeller entered the oil trade.

In the same year that a new rumour of gold started a stampede for the Dakota hills and so set the stage for the last Sioux war, Andrew Carnegie built his first steel works in Pittsburgh.

In the same year that Crazy Horse and Sitting Bull wiped out Custer's last command on one side of the Mississippi, the production of steel on the other side of the Mississippi doubled for the seventh time within a decade and the business of burrowing into the earth for oil, which had been a game of blind man's buff ten years before, now poured eight million barrels of oil into a network of new pipe lines.

Nor was the chief change in these years merely the production of new raw materials and of raw materials in new abundance. These same years cut the pattern of a new America. They settled the fact that for the next half century steel was to have its headquarters on the Allegheny River. They organized industry along sharply sectional lines. They made Minneapolis the capital of a modern milling industry. They brought the packers to Chicago. They founded the Granger movement. They prepared the ground for the first experiment in trusts. They witnessed the organization of the first formidable alliances of labour. They founded the Chautauqua movement. And they made deliberate use of science on a vast scale, for the first time in the history of industry, in the business of transforming raw material into a finished product.

If the scene on the new frontier in the West beyond the Mississippi was a kaleidoscopic sequence of boom towns, gold rushes, buffalo hunts, forced marches, cattle drives and Indian rebellions, the scene on the new frontier in the East was no less fluid and dynamic. New processes were being discovered, new resources exploited, new industries developed, new armies of immigrant labour suddenly recruited, new

forces harnessed in behalf of some remote and still mysterious objective. .

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What this objective was to be we are still too remote from our destiny to know, in 1929, or even to guess wisely. But the scene has changed. The old America is gone. At the end of sixty years we behold a new America, modern in its manners and impressive in its power.

Steel, oil, and transportation have rebuilt the nation that stood between two frontiers in 1863. Steel has put ribs in its long body. Oil feeds its hungry motors. Transportation has pulled it together and given it a tight culture and a remorseless unity. The two sawed-off locomotives that faced each other on a ridge in Utah when the last spike was driven on the first transcontinental railway pant no more, and rest their iron bones inside glass boxes in museums. But the country has been gridironed with a quarter of a million miles of track; and over it locomotives pull their trains a billion and a quarter miles a year: as long a haul as thirteen round trips from Chicago to the sun.

Out beyond the Mississippi, where the "Great American Desert" was charted on the maps of 1863, live thirty million people, raising the bulk

of a billion-dollar wheat crop every summer and tuning in their radios on Malay love songs sung to the mandolins in Cuba. The cattle drives are gone; the settlers hunt for their homes in subdivisions lined with California bungalows; the bad men ride in roadsters. Dodge City, Kansas, is no longer the gilded home of vice but a citadel of Prohibition. The only "Hells on Wheels" in 1929 are the 1918-model cars that still parade the open road.

Trade no longer follows the flag, the river valleys, and the latest rush for gold; it follows three-colour advertisements in magazines with a million circulation. The trip to the coast that was a slow pilgrimage by coach in 1863 now takes fifty hours in a Pullman. Over the valley of the Little Bighorn, where Custer stumbled into the arms of Sitting Bull, hurry travellers on their way to some new battle of the century in a squared ring in Chicago or New York. And up and down the prairies where the buffaloes roamed in 1863 roam tourists doing their best to find stray bits of wilderness in which to camp for the night and take one another's pictures.

We have built up a new America and there is no corner of it in which we find it difficult to feel at home. The kinks that did not lie quite flat in 1860 have been ironed out in 1929. The prairie

trails are macadam roads. The mining towns have parking rules. The gold rush has been supplanted by the land boom. Where the pony express stopped in a village street for a change of horses, skyscrapers shoulder one another for standing room.

Freight trains barter their goods from coast to coast. Farmhouses are torn down to make room for reservoirs; reservoirs are filled up to make land for suburban homes; the cities grow, and out into the countryside pushes a civilization of factories and traffic laws. Mass production writes new records for perfumed soap and Turkish towels in the workshops of dishevelled mill towns. The market is high. The roads are safe. The pennant is cinched. And over the broad highways that follow Ben Holladay's trail to California hurries an endless caravan of motors.

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CHAPTER II

ST. GEORGE AND THE DRAGON

MICHIGAN was a farming state, Detroit was a sprawling county capital with a population of fifty thousand, when Henry Ford was born in the town of Dearborn on July 30, 1863.

His father was William Ford. His mother was Mary Litogot. In themselves they were typical of the changing frontier in America, a frontier that was pushing west on the shoulders of men and women who had crossed the seas to find either freedom, refuge, or a pot of gold. William Ford, of British descent, had come to the United States in 1847, in company with other thousands to whom a new land beckoned glowingly. He had drifted west. He had been set at work, with men drawn from the ends of the earth as if God had willed them for this remote, mysterious purpose, driving some of the railway spikes that laid across a free, unfettered land the iron highway of the new America. He had saved money, bought a farm in Dearborn, and married Mary Litogot, a girl of Dutch descent, the daughter of a farmer.

A son, christened Henry in honour of his uncle, was born to William Ford and Mary Litogot in the first year of their marriage.

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It was into the America that stood between two frontiers—the industrial frontier with its factories in the East and the pioneer frontier with its prairie schooners in the West—that Ford was born. His father's farm stood at the cross-roads of two civilizations. The industrial frontier had advanced far enough to bring Dearborn into a world of iron rails and locomotives, but the old frontier was still present in the simplicity and isolation of farm life in the 1860's.

The house that William Ford had built for Mary Litogot stood in a grove of trees with the sun at its face in summer. It was a small house, two stories high, but with eaves so low that the rooms upstairs could not look out in front but only at the sides.

At first there had been four rooms. Later two more were added, one a dining room, the other a room for "best." To the "best" room the new industrial frontier had contributed kerosene, lamps with ground-glass globes to burn it in, and a base-burning stove with two small mica windows through which the red coals

caught in an iron grate displayed their heat. The stove was a bold intruder from the new world of machine production, a highly standardized accessory precisely like all other stoves of the same model, from the ornamental urn that sat on its artificial lid to the broad flare of its four bowed legs. At one edge of a carpet of plucked and scattered roses it sat on a small white dais of its own, flanked on one side by a gleaming horsehair sofa, on the other by a row of rocking chairs.

How often the lamps with the ground-glass globes were lighted and the red coals glistened through their mica windows depended upon the availability of guests and the purposes for which they came. Sometimes on Sunday evenings the best room would be used for the singing of familiar hymns. Sometimes the rocking chairs would creak to the conversation of two neighbours. Day in, day out, however, it was the kitchen with its fireplace that was the centre of the house. There nobody stood on his best behaviour, nobody expected hymns to be sung on Sunday evenings, nobody felt that the oil lamps belonged to company, and nobody pinned anti-macassars to the backs of chairs. The firelight danced on an open hearth and supper cooked at the end of a long crane that carried the kitchen pots.

The life of the house revolved around the fireplace, as the life of the farm revolved around the house. With a little assistance from its neighbours the American farm in 1860 was a unit in itself. Neither the packers nor the millers as yet absorbed its products. Wheat threshed on the farm remained on the farm, to be ground into flour in a grist-mill. Wool was spun into yarn at home, woven into cloth in the neighbourhood, and cut into clothes on home-made patterns.

The centripetal force of a modern mechanized civilization had not yet drawn the farms into its orbit. It had not yet stamped them with its urban styles, or sold them its city gadgets, or persuaded them of the superlative importance of city news, or invested them with city manners. It had **not** yet given them either a stake in the world **beyond** their fences or gasoline cars with which to run up and down the roads and become more and more like their neighbours.

The farm was still an outpost with its own stockade, in a world that had no filling stations.

§

Wheat sold for ninety cents a bushel in 1869. Threshing was done by flails when Ford was a small boy; then by machines staked to the

ground, with power supplied by teams of sweating horses. Ford remembers of these early years chiefly the fact that "there was too much hard hand labour on our own and all other farms."

His parents were not poor. They had a farm of forty acres. But acres were not ease, and the comforts and conveniences of farm life were meagre. If the new industrial frontier had not yet brought a standardized urban civilization to the farms, neither had it brought standardized machinery or modern tools. It was not until 1869 that the chilled steel plough was invented. Modern harrows, seed drills, reapers, tractors, and electric power plants were not unheard of, but undreamed of. Drudgery was implicit in every ill-remembered chore. All of the work of carrying water, hewing wood, and harvesting crops was done by hand. Butter was made in an old-time churn. Meat was cut by the butcher but smoked at home. Thanks to the fact that the spring house and the cellar were the only available means of refrigeration and these methods had their limitations, salt pork was an all-too-familiar staple.

By way of compensation farm life, no doubt, had certain mellow satisfactions which lent it grace. If the farmer's contact with the outside

world was limited to an arc described with a half day's buggy ride as radius, at least within that arc there was a friendly neighbourliness which had not yet been made superfluous by the triumph of machines. If winters were long and the day's work was an unexciting routine, there were barn raisings and corn huskings to bring evidence of a community of interest and a sense of kinship with a common purpose.

Roads were still roads that led to a neighbour's house, and not paved and lettered highways for a sudden dash across three counties. Home was home, every night in the year and without the intervention of a national hook-up. Into these homes such events as quilting bees and canning bees brought a certain conviviality which is sometimes lacking even at the end of a frantic run of two hundred and sixty miles in search of something not always found, on a modern motor Sunday.

No doubt farm life in the 1860's had a certain charm that has gone down before the new machine age. Yet it is also possible that such an event as a canning bee or a barn raising has acquired by 1929 a romantic aura which it did not have in 1863, and that the satisfactions of social life on the farms some sixty years ago were poor reward for a life of humdrum labour.

Certainly it is true that comforts were few. Horizons were narrow. To the farmer in the West there came few intimations that the industrial East was discovering steel and perfecting modern transportation. The farmer lived in a world of his own, and this world seemed unchanging.

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In the conventional one-room rural school that reflected the isolation of the farm Henry Ford received his education. The schools were taught as the crops were farmed, by methods that had been traditional for generations. Ford entered school when he was seven. This was in 1871, three years after the Cheyenne had swept through western Kansas, two years after the last spike had been driven on the first trans-continental railway, and one year after the Standard Oil Company of Ohio had been organized in Cleveland.

Ford went to school to a man named Chapman, who taught eight classes simultaneously. The first grade studied its spelling books, while the fourth grade covered the blackboards with Spencerian curves, and the eighth grade turned the pages of Cruikshank's Primary Geography and studied distant nations. France, said Cruikshank, "celebrated for its manufactures, es-

pecially of silks. . . . Education is not universal, but the better classes are refined and educated.” —China, “with many important manufactures, but no inventions. . . . The Chinese differ from all other people. It would take many books to tell all the strange things about them.”

Two standard textbooks were the backbone of the rural school curriculum, and if these books gave Ford most of his early schooling a whole generation of Americans shared them with him. One was the famous Blue-Back Speller, “so constructed,” its preface said, “as to condense into the smallest compass a complete system of elements for teaching the language. . . . The most important book not of a religious character which the youth of our country are destined to use.” The other was McGuffey’s Reader, a treasure house of “elegant extracts in prose and poetry,” giving the schoolboy of the 1870’s a large part of his background in literature, art, psychology, and ethics.

One note predominated in the Readers, a moral note which not even a careless student of the text could overlook. Life is man’s brief opportunity on earth, McGuffey taught, to display sobriety and thrift: a few short years for active labour followed all too often by a tragic death. To this end, and that his students might

find themselves prepared for the years that lay ahead, McGuffey went out of his way in search of vices and temptations, taking care in each instance to prescribe an antidote no matter how remote the vice and whether or not the temptation which it offered was likely to be present at an early age.

Sometimes the lesson was taught obliquely, as in the elderly physician's story of the young flirt stricken at her toilet with a curling iron in her hand, and his ruminating query, "Is the ballroom a suitable place to prepare for death?"

Sometimes the moral was driven home directly, as in the warning against gambling which McGuffey culled from the works of Timothy Flint. "Gambling," wrote Flint, "is the prolific stem, the fruitful parent, of all other vices." For gambling leads to cheating, cheating leads to falsehood, falsehood leads to blasphemy, blasphemy leads to drunkenness, drunkenness leads to quarrelling, and by the consistency of the same logic quarrelling leads to murder.

"My dear reader!" Flint appealed to the students of the fifth grade in the rural schools of Michigan, "let me implore you, by the mercies of God and the worth of your own souls, to con-

template this enormous evil only from a distance."

§

No doubt there was much that was common sense and much that was graphic in McGuffey, as well as much that was sombre and forbidding. But what is clear is that there was nothing in McGuffey to gratify the interest of a growing boy in the puffing locomotives and the giant furnaces and the fascinating and mysterious processes of a new industry looming on the horizon of American life in these swiftly changing years. Ford did his laboratory work, in company with a hundred thousand other boys, outside of school.

He tried for himself the ancient experiment of steam compressed within a given space from which there is no outlet, using an earthenware jug, a wooden plug, and his mother's stove to make the test. The jug exploded, as it should have exploded, and destroyed a set of window panes.

He set himself to the task of harnessing nature's resources to the performance of man's labour, using a near-by creek for his water power, a rake handle for a shaft, and a discarded coffee grinder for a mill, and succeeded in flooding the potatoes in his neighbour's cellar.

He explored the first watch given him, a fate which has overtaken first watches down the ages, but in this case succeeded not only in taking it apart with satisfactory promptness, but in putting it together again.

This first success opened vistas of a future which was not to be ignored. Borrowing old watches and dissecting old watches became for some years one of his major interests. By the time he had finished the sixth grade, Ford said, years later, he had taken apart more than two hundred watches. A small part of this work was done on a commercial basis, at the request of schoolmates. The bulk of it was in the interest of pure science.

Certainly there were other things to be learned in these days than could be learned in textbooks which had not yet discovered the existence of a new industrial frontier. When school was over in the afternoon and another necessary moral lesson had sunk home to its appropriate place, a substantial part of Dr. Chapman's class adjourned to the Dearborn blacksmith shop. Here the text of the day was written on an anvil, not a blackboard. Problems more concrete than those with which McGuffey's metaphysicians wrestled in the Fourth Reader were dealt with by a professor in a leather apron every afternoon. No

morals were preached about salvation, but there was a fine thrill in watching the red-hot iron tire for a wagon wheel being shrunk into place without setting fire to the wood.

Ford brought home from the blacksmith shop enough science to start a workshop on his father's farm. He had a vise and a kit of tools that included a remade knitting needle, hardened by alternate baths of heat and soap till its sharp edge would cut metal. Here and in the surrounding countryside various experiments were carried out. On one occasion a forge was built. On another occasion plans were laid for a barnyard gate that could be opened without dismounting from a wagon. On still another occasion there was talk of fitting an engine to a tricycle belonging to a young neighbour.

In anything and everything that could be called mechanics the small son of William Ford showed a keen, unflagging interest. An old saw-mill in the woods a mile from home was a place of special interest. One Sunday afternoon he found that the head had been taken off a cylinder of the engine. This was too good an opportunity to be ignored. Young Ford rolled up his sleeve and thrust his arm into the open cylinder. The engine turned a notch. He discovered that his arm was caught. For an hour and a half

a small boy clawed in the sawdust with his free hand before he could turn the engine and release his arm.

It was time enough, he told his father later, to learn how the valve worked in a sawmill motor.

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No doubt some of the stories of Ford's interest in mechanics in these early years are apocryphal. Such stories, told for the purpose of showing how promptly a boy of ten or twelve discovered the major interest of his life, often follow in the wake of a successful man, whether he is a poet or an engineer. Nevertheless, the point that such stories illustrate in the case of Henry Ford is plain enough: the schoolboy's laboratory in the 1870's was the blacksmith shop, the creek behind the spring house, the sawmill in the woods, a corner in his father's barn.

Though the frontier was changing rapidly, though a new machine age was advancing with a rush, though in the decade between Ford's second birthday and his twelfth the self-binding reaper, the refrigerator car, the web printing press, the telephone, the typewriter, the duplex telegraph, and the air brake were invented, the American educational system continued consistently to ignore science.

Even in the colleges the first modern physics laboratory was not established until the founding of Johns Hopkins University in 1876. In the grade schools of the 1870's, and particularly in the rural grade schools, science was an ugly duckling. The classics reigned supreme, and the eminent Victorians interpreted the classics.

Chemistry was taught, when it was taught at all, not as an inquiry into the processes of inorganic and organic life, but, as Pynchon explained in his *Chemical Physics*, as a study which "conduces powerfully to the promotion of the principles of Humility, Devotion, and Obedience." Physiology was taught not as research into the anatomy of the human body, but as a timely warning against the injurious effects of alcohol and tobacco on the tissue of the stomach, brain, and lungs. When A. F. Blaisdell revised his standard textbook of the times he gratefully acknowledged the coöperation of the Women's Christian Temperance Union.

Even McGuffey, for all the catholicity of his taste, found little in science, when science was disattached from morals, worth calling to the attention of his alert young readers. In the same volume that told the story of the flirt struck dead at her toilet while the music sounded for a dance, McGuffey found place in the whole run of one

hundred and seven readings only for one reading in the field of science, and this was anything but an invitation to explore the subject further. An elderly and thoughtful scholar, in Lesson XI, shook his head over the whims of a generation that had discovered the theory of inoculation and revolutionized surgery by the application of antiseptics. "Alas!" this scholar mourned, "how narrow is the utmost extent of human science! How circumscribed the sphere of intellectual effort! How little has man, at his best estate, of which to boast! What folly in him to glory in his contracted power, or to value himself upon his imperfect acquisitions!"

Upon such sombre reflections, in respect to the possible future achievements of a new and budding science, was the young idea fed. And logically enough. For the American educational system of the 1870's had not caught up with the new America that was emerging from the workshop and the laboratory, but still lingered on the old frontier. Science had no place in the curriculum of the schools because the schools were assumed to have performed their mission not when they had taught the best available knowledge of their times but when they had grounded their students in the ethics of the day.

Small shoulders bent over the long wooden

desks, pencils creaking on the brittle slates, the third grade copied maxims from the Blue-Back Speller. . . . "God made the ear and He can hear." . . . "A great part of history is an account of men's crimes and wickedness." . . . "It is every man's duty to bequeath to his children a rich set of pious precepts."

§

Henry Ford studied the Blue-Back Speller. He studied McGuffey's Reader. He learned that the wages of sin is death and that the flesh of man is mortal. He made a lathe. He watched the Dearborn blacksmith practise the art of shaping molten metal. He walked two miles to school, carrying his dinner in a pail. He hoed the corn on his father's farm. He solved the mystery of watches. He stood with the sweating men who fed wheat to the thresher once a year at harvest time. He built a forge. He watched his father's neighbours raise a barn. He discovered a copy of a magazine that published photographs of engines. He asked his mother questions. He broke ice on winter mornings to water his father's horses. He listened before the fireplace as his father read aloud from the pages of *Gems of Life* on winter evenings. He watched the old give way to the new when the kitchen crane was discarded

for a stove that had an oven. He played in the fields on a summer's day when the chores were done. And he lived in an America that was starting off, in these same years, on a new road toward some goal as yet uncharted.

In the West the war drums of the Sioux, the ballyhoo of the new boom towns, the crack of the frontiersman's ax and the rifle fire of the militia still echoed from the plains.

In the East a new frontier of smokestacks was pushing farther every year, its captains clamouring for more coal, more oil, more man power for their factories, more iron for their mills.

In the schools classes were taught as they had been taught for generations, not only without much faith in the prophecies of an experimental science, but with no suspicion of the sudden revolution in thought and methods and manners of living that lay immediately ahead.

And at the door of the schools knocked the masters of applied science who were gouging the earth for metals, annihilating distance and breaking ground for the sudden development of a machine civilization such as the world had never seen.

§

There can be no doubt of the authentic high spot of this period for Henry Ford. Ford himself

has described it as "the biggest event of those early years." On a Michigan road not far from the same school in which science was still a stranger a small boy just turned twelve met science and the new industrialism face to face.

He had been driving to town with his father on that morning. And at a bend in the highway there appeared before him suddenly the first road vehicle moving under its own power that he had ever seen. It rose in the sunlight, bumping and thundering down the road, like a splendid iron monster. Its heavy sides were a gleaming black. Its huge rollers rumbled ponderously. Smoke shot in a sooty cloud from its thick-set stack.

Before the horses had had time to become panic-stricken Ford was off his father's wagon and talking with the engineer. Who made it, where was it going, and what did they use it for? "The engineer was very glad to explain the whole affair." This was an engine for driving threshing machines and sawmills. It was equipped with a chain that connected the power unit with the rear wheels so that it could travel under its own steam. There was a belt attachment for applying power to a thresher. The engine made two hundred revolutions a minute and was governed by a throttle. It had been

built by Nichols, Shepard & Company, of Battle Creek.

A small boy climbed back on his father's wagon and went on with the horses. But the trumpet had sounded and the issue was drawn.

It was young St. George and the dragon.



CHAPTER III

THE DEVIL WAGON

THERE was no traffic problem in Detroit in 1880. There were no instalment plans, no parking rules, no filling stations, no vitamines, no Saturday half holidays, no municipal golf links, and no rapid transit. The sprawling county capital that had had a population of fifty thousand when Henry Ford was born had more than doubled that figure now, but it was by no means a metropolis.

With more length than breadth the city faced the river along five miles of waterfront. It had broad streets that were lighted by night with naphtha lamps and swept by day with two machines purchased in England at a cost of six hundred dollars and brought to Detroit by a progressive city council. The Russell House, which had added a wing in 1875, had lately entertained the Prince of Wales. The Moffatt Building had installed an elevator. The city had four libraries, sixty-four churches, and about a fourth as many schools. Bell had exhibited his

telephone before a local audience three years before, and by 1880 Detroit had one central exchange, twenty-two wires, and three hundred semi-private phones.

Manufacturing, even in these days, had marked the city for its own, and by 1880 there were sixty-two incorporated companies in Detroit turning out a wide variety of manufactured products. The Pullman Palace Car Company had a branch factory here; there were sawmills and copper-smelting companies. The working of iron had become a modern industry which was achieving prestige for the city. In 1879, when Henry Ford had finished his eighth and last year of public school, the Michigan Malleable Iron Works declared with pride that "orders have been filled by this company from points as far east as Bridgeport."

§

No doubt there was reason for believing that Detroit would grow. The city had doubled its population in a decade and a half. It had substantial resources of uncut timber back of it. It had copper mines and iron mines within easy reach of new industrial processes that demanded raw materials. It sat at the crossroads of the Great Lakes and a main line of travel east and

west, strategically placed to take advantage of the industrial expansion that lay just ahead.

Certainly a chairman of the board of the Pullman Palace Car Company or the Michigan Malleable Iron Works, taking office in the year 1880, would have been entitled to the conservatively rosy view which he no doubt expressed, and the prediction, amid friendly cheers, that Detroit could reasonably look forward to a bigger and better future as the years drew by. But that Detroit could reasonably have looked forward to a future as spectacular as that which actually lay in store for it surely no one would have dared predict. For more than average civic pride would have been needed to prophesy in 1880 that within five decades Detroit would merge its native stock with a million new Americans of foreign birth or foreign parentage, that the city would boast a population of a million and a half, that it would cover an area of one hundred and forty square miles and that it would manufacture three billion dollars' worth of factory products every year.

And yet, in 1880, the logic of the situation would have warranted a bold prediction. For in these same years developments were under way which were to force a new pace in the expansion of the cities and break the way for the industrial

triumph of the Middle West. Industry was advancing with the railway lines. In the twenty years between 1860 and 1880 the number of factories in the five north-central states between Ohio and the Mississippi more than doubled in number and more than trebled in invested capital. Factories were moving closer to sources of raw material and closer to their markets. And as they moved, they grew in size: conquering local industries by their superior efficiency, devouring one-man businesses which could not meet their competition; replacing craftsmanship with the tireless perfection of machines and drawing man power from the villages into the cities.

The circle was complete. The cities grew. And as they grew they hammered out the iron rails and the cattle cars and the refrigerator plants that enabled the countryside to feed them from a distance.

New methods were making the metropolis more possible. New conveniences, new opportunities for work and new distractions which farm life could not offer were making it inevitable.

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It is against this background, rather than as torn pages from a diary, that Ford's ex-

periences as a young man are most intelligible.

He had left the farm in Dearborn when he was seventeen and come to Detroit in this same year, 1880, when the census showed that Detroit had pushed its population well above a hundred thousand. His father had not wanted him to leave the farm. Farm life, his father argued, was more remunerative and more wholesome. But the farm, despite the fact that it was home, was a second-best place for a boy who was happiest in his workshop with its home-made tools, and young Ford was drawn to Detroit by the same irresistible logic that had led him home, as a schoolboy, by a route that took him past the blacksmith shop in Dearborn. Detroit itself was a blacksmith shop in 1880: a blacksmith shop with noisy, busy mills, at least one of which must have a place for a boy of seventeen who could help blacksmiths work their bellows, make a home-made forge, take watches apart, and explain about valves in a sawmill motor. He found that place on his first day in the city. It was in the workshop of James Flower & Company, general machinists.

James Flower & Company was an excellent firm, but it did not pay high wages to unknown young men who had just walked in nine miles from Dearborn. It paid, in fact, wages of two

dollars and a half a week. That was not enough to meet the requirements of a landlady who had been discovered just around the corner. It was evident, however, that boys who could earn odd sums taking watches apart for neighbours on the farm could earn odd sums taking watches apart in a city shop if they were offered the opportunity. Ford found a jeweller named McGill at the corner of Baker and Twentieth streets who agreed to pay him two dollars a week for night work, repairing clocks and watches after supper. With his wages from James Flower & Company this sum was sufficient to meet the terms of the landlady, adjust his financial problem on the basis of a fifteen-hour day, and leave a margin of a dollar a week above room and board for clothes, savings, self-advancement, and diversion.

It was not much; but the chances are that for a boy who had come to the city hungry for efficient tools and the whirl of engines it seemed ridiculously ample. And if this was true, it was not because young Ford was one boy in a thousand, but because the workshop gave him what he wanted. Many a boy on a farm, in those days no less than now, yearned for a chance to play apprentice to the masters of machines. Ford was fortunate. Only nine miles of country road

separated his father's farm from a city filled with mills and foundries, open hearths and modern lathes, steam-power plants that drove the wheels of new industrial machinery.

Flower & Company, with its noise and grease, its cranes and flapping belts and half-dismembered engines, was not a machine shop but a great adventure.

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There followed, not long after this, an unexpected interlude.

Ford had come to Detroit with the intention of staying in Detroit, and for four years that slipped by quickly he lived content in a world of steam and motors, on a wage that was never much above the minimum of his landlady. He worked for the better part of a year with Flower & Company, which repaired steam motors. He worked for two years with the Dry Dock Engine Company, which made steam motors. He worked for a year with the Detroit branch of the Westinghouse Company of Schenectady, which installed steam motors. And then, at the age of twenty-one, with a first-hand knowledge of steam, he returned to his father's farm in Dearborn.

There were three chief reasons for his willingness to leave Detroit. For one thing his father

had offered him a patch of timber to persuade him to come home. For another he had learned a good deal about other people's engines now, and wanted time, as he explained in later years, to experiment with some theories of his own. The third chief reason for returning to the farm was not apparent to him at the time but became perfectly clear after he had been back in Dearborn for a month or two and met Clara Bryant. It seemed plain as a pikestaff then that a patch of timber was ideally made for the purposes of a young man who had decided to be married.

Ford rented a twelve-horsepower motor and began sawing wood. He bought a red cutter and went courting. Clara Bryant did not live in Dearborn but across the line in Greenfield township. It was a pleasant ride on a winter's night, with a world of things to talk about. There was the husking bee in a neighbour's barn that evening, and the new watch Henry Ford had made, the only watch of its kind in Dearborn, that told sun time and standard time with two sets of hands on a pair of dials; there was city life, as Ford had lived it in Detroit, and country life, as it now seemed suddenly more promising; there was the last dance of the evening to an old-fashioned tune, and the crunch of packed snow under the

runners of a cutter, and the new engine Westinghouse was putting out, and the undeniable fact that timber cut with a twelve-horsepower motor could build a comfortable home for two people if they wanted one.

Three years after he had met Clara Bryant, and in the year that he was twenty-four, Henry Ford was married. He built a cottage on the land his father had given him and settled down to be a farmer. He built a workshop, to be sure. He spent more hours in it every day than some of his neighbours thought he should. But he tilled the soil. He planted crops. And he cut his timber. Henry Ford, the neighbours said, had come to rest.

And then, happily married, prosperous enough, assured of a steady income and a future that was bound to be respectable, he suddenly pulled up stakes and went back to Detroit with the young girl he had married.

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It is plain enough now that Ford was a symbol in these years, one symbol among many, of the tug and pull that was going on between the cities and the countryside. First the city had him, then the country got him back, then the city claimed him for a second time. It was an old

struggle, this struggle between farm and town; but now the pulling power of the towns had been enormously increased by the sudden development of modern industry. Comfortably enough placed on his father's farm, with a modest heritage before him, Ford had been drawn to the city irresistibly. Caught in its vortex, he escaped; only to be caught again. It was an old struggle carried on with new intensity because the stakes were new. Ford's experiences in these years could have been duplicated in the experiences of thousands of young men living on the fringes of an expanding urban civilization.

The difference in Ford's case, a difference that by no means made him unique but did put him in a minority, was that he had a definite idea.

It was an idea that had been with him for some time: ever since the day, in fact, when as a boy of twelve he had encountered the Nichols-Shepard engine on his way to town, an engine that rolled along the open road actually under its own motive power. It was an interest in engines that had brought Ford to Detroit when he was seventeen. It was an interest in engines that had sent him to work for Flower and for Westinghouse. Nor had he neglected engines when he returned to Dearborn. He had his work-

shop on the farm. There was time, despite the good advice of friends, to work on engines. There was time, in the slack seasons of the year, to repair engines for the Buckeye Harvester Company as a "trouble-shooter" for engines installed by this company in his neighbourhood. There was even time to build an engine of his own.

Ford built an engine in the workshop on his farm. It was a steam engine; all of his training with Dry Dock and Westinghouse had been in steam. It had a kerosene-heated boiler and a cylinder cast from a pattern of his own. He mounted it on a set of iron wheels borrowed from a mowing machine that had seen its day and tried it out on some of the work of pulling and hauling on the farm. It developed plenty of power, but also a problem which impaired its usefulness.

If the boiler was heavy, too much of the power of the engine was used up in hauling itself along the roads or across the fields. If the boiler was light it had a tendency to explode. There was small inducement to adopt this early tractor in the interest of efficient farming.

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It was the idea of an engine mounted on four wheels that dominated Ford; and in a day when

the swift development of cities was demanding new means of communication, a day when the bulk of the steel manufactured was going into rails, and a day when one of the chief problems of the new urban civilization was rapid transit over too many miles of road to be mastered by a horse car, the idea was as logical a product of the times as Ford's own gravitation to the city.

It was, in fact, so logical an idea that a very considerable number of mechanics both in the United States and in Europe were at work on it, and had been, for some years.

In 1863, the year in which Ford was born, a Frenchman named Lenoir invented the hydro-carbon motor. In 1876, when Ford was studying the fifth volume of McGuffey's Reader, a German named Otto invented the four-cycle gas engine which still bears his name. In 1879, one year before Ford left Dearborn for Detroit, an American named George B. Selden applied for a patent on the idea of a vehicle to be driven by an internal-combustion engine. In 1885, the year that Ford returned to his father's farm, Gottlieb Daimler, another German, invented a gas engine which burned petroleum spirit, harnessed it to a bicycle, and drove it through the streets of Mannheim. In this same year an Englishman named Butler built the first

vehicle in England propelled by a gas engine, an odd vehicle like an invalid chair with the motor mounted up behind. In 1887, the year that Ford was married, two Frenchmen named Panhard and Levassor bought the French patent rights to Daimler's engine and built a motor car with a wheel out at each corner.

The invention of the automobile was accordingly nothing that happened all at once, in a single place and on a single day. It was, instead, a gradual adaptation of machinery to a purpose of which men had been talking for many years—had been talking, in fact, since the invention of the locomotive: the idea of applying power to a carriage for the road. Some of the machinery used in the development of this idea was new machinery. Some of it was old. What happened in the invention of the motor car was that a good many men in a good many places, working toward a goal which had long been in view, achieved their purpose at approximately the same time through a process of trial and error.

It sounds logical enough now. But the point to be remembered is that all of these men were working more or less in isolation. They did not see one another's plans. They did not confer upon the progress they had made. Ford, for example, in a remote workshop on a Dearborn farm, was

almost perfectly protected against profiting from anyone's assistance. There were no plans for him to see and no colleagues with whom he could readily compare ideas.

It is true that Charles E. Duryea, a mechanic in Chicopee, Massachusetts, was preparing at this time to experiment with a motor-driven vehicle; but Chicopee was a long way from Dearborn. It is also true that Percy Pierce, a manufacturer of bird cages and bicycles in Buffalo, was at work on the construction of a motor car to be called the Pierce Arrow. But Ford had never heard of Pierce. He had never heard of a gas engine until he read about one in a magazine. He had never seen a gas engine until someone told him that a new-fangled motor had gone dead in the yards of the Eagle Iron Works in Detroit and asked him to repair it.

If it is true that the automobile is a synthetic product, put together by a number of men in a number of places almost simultaneously out of odds and ends of new and old inventions, this fact does not detract from the ingenuity and perseverance displayed by the individual inventors. They worked in the dark as to one another's plans. In most cases they lacked capital. They received small encouragement from a sceptical public which either took the auto-

mobile as a joke or denounced it, for its smoke and clatter, as a "devil wagon." They pinned their hopes to a gas engine as self-conscious and as temperamental, in those days, as a grand opera prima donna. And they banked on their ability to make this engine the power unit of a serviceable road vehicle in a day when almost no one thought that the new internal-combustion motor could ever be more than a passing fad.

"All the wise people," as Ford said later on, "demonstrated conclusively that the new gas engine could not compete with steam."

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Ford brought his idea with him when he came to Detroit for the second time. Except in one detail it was the same idea of a motor mounted on four wheels that he had brought to Detroit ten years before. The one difference now was in the matter of his motive power. He had abandoned the idea of steam in the last few years and gone over to the new school that put its faith in the development of the gas engine.

There were several reasons for this change. For one thing, he had found the steam engine too heavy for his purposes when he tried it out as an impromptu tractor, even though he had experimented for two years with various types of

boilers. For another, he had built a gas engine in the workshop on his farm, working from memory on the basis of what he had learned by repairing the first gas engine he had ever seen. The engine he built was only a toy engine. It had a one-inch bore and a three-inch stroke. But it worked. And in proportion to its weight it developed more power than he had been able to obtain from steam.

This was the same conclusion at which Levassor in France, Butler in England, Daimler in Germany, Pierce and Duryea and Haynes in the United States and a score of other men on both sides of the Atlantic were arriving in these years. But what knowledge Ford had of this fact was knowledge at second hand. He had his own problem in adapting the gas engine to the requirements of rapid transit.

He was twenty-seven now. He had given up the farm. He needed an income and enough time to try out his ideas. The income he supplied by finding work with the Detroit Electric Company as an engineer and machinist at a salary of forty-five dollars a month. The time came out of night work and Sundays. He had found a small house for rent in Bagley Avenue, with a brick shed back of it. To this shed he brought

the workshop from his Dearborn farm, and there he built his juggernaut.

It was tedious, exacting, lonesome work. It needed money: Ford had no money save a weekly wage of eleven dollars and a small income from the farm he had rented to a neighbour. It needed care and ingenuity: Ford came to the task each night after a workday of ten hours. It needed raw materials that would stand up under a variety of experiments: Ford worked with junk; he built his cylinders out of the exhaust pipe of a discarded steam engine which he had purchased as old iron.

Nor was the essential task merely one of taking a gas engine which somebody else had invented, mounting it on wheels and discovering an easy means of starting it and stopping it. Ford did not have blueprints of the gas engines that had been invented. Nor did he build an engine like the gas engine he had once repaired. That was a single-cylinder engine. Its flywheel, he decided, was too heavy to use in a car that was meant to run about; so he planned an engine with two cylinders, one of which would be delivering power while the other was exhausting, with the result that a lighter flywheel might be enough to spread the application of power evenly to his transmission system.

Working out that plan meant experimenting for himself. It meant working with tools that were poor substitutes for adequate machine tools which had not yet been invented. It meant making individual parts—spark plugs, for example—which are now taken as much for granted as if they grew like leaves on trees. It meant frequent disappointments and fresh starts, not only in the construction of the engine but in the application of its power to the road. Ford found it necessary, for one thing, to invent a compensating gear that would permit the same power to be applied to each of the rear wheels when his car was turning corners.

Night after night the work went on. Without plans, without tools, without money, and without materials, working against time, after hours, and in the face of all the discouragement that could be given him by his new neighbours in Detroit and his old friends in Dearborn, who took pains to tell him that he was crazy to forsake his farm, crazy to neglect his job, crazy to work with gas instead of steam, Ford stuck to his appointed task in the brick shed behind the house in Bagley Avenue.

The story of those nights is told not only in the myths that have accumulated around them now, but in the drab records of a court of justice.

Years later, taking the witness stand before the United States Board of Tax Appeals, in January, 1927, one of Ford's neighbours in the Bagley Avenue of 1890 testified to the hammering and rattling and pounding that went on in the brick shed long after dark. Occasionally, the witness said, there would come a racket followed by an unexpected and mysterious "sputtering" of something that seemed half-alive.

It was Ford, alone with his lathe and his cast-off iron, accepting the challenge of the Nichols-Shepard road engine he had met outside of Dearborn as a boy of twelve.

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Nights passed. The "sputtering" went on. Detroit grew. The county capital that had doubled its population in the decade and a half between 1865 and 1880 now doubled it again at the end of ten more years. Factories were moving west. Industry was expanding. New processes were making the metropolis inevitable. The historic struggle of town and country had entered a new phase.

It was on a night in 1893, three years after Ford had come to Detroit for the second time, that the job was finished and the "sputtering" left the shed. Out into the alleyway that led to

Bagley Avenue Ford pushed the noisy little power plant that had cost him three years' effort. Four bicycle wheels and a pair of elliptical springs carried the motor he had salvaged from a junk pile. It was a two-cylinder motor with a six-inch stroke that developed four horsepower, sufficient to shake the light framework of the body as a terrier shakes a rat. In front of the motor, over a gasoline tank with a capacity of three gallons, rose a seat with a tufted cushion for two passengers; and out in front of the seat, at a good arm's length from either passenger, was an upright clutch that shifted the speed of the car from low to high: two speeds forward and no reverse. A long rod that did the steering took two curves to the driver's lap. The front of the car was a low square dash, shin high and sombre, surmounted by a heavy gong.

~~17~~ Ford headed his car into Bagley Avenue and spun the motor. It was an important moment in his life. It was also a turning point, though he could not know it, in the same long struggle between town and country that had brought him to Detroit. For the motor car was to be the decisive factor in that struggle, settling it definitely and triumphantly in favour of the towns by giving them the one instrument they

needed to spread themselves across the countryside and urbanize the farms. If the low-priced automobile had never been invented it is possible to believe that a rural culture unlike an urban culture might have existed in this country for some years. But with the development of an inexpensive motor car the last possibility of two unlike cultures existing side by side in the United States went glimmering. Henceforward it was destiny that millions of Americans should spend a large part of their time running up and down the nation, acquiring a common culture and an impregnable likemindedness, fashioning a new America in which town and country thought alike.

The Detroit of 1880 and of 1890, the Detroit of Flower & Company and the Russell House and the broad streets lighted by naphtha lamps and the horse cars on Woodward Avenue, did not know the rôle that fate had in store for it. It did not know that it was shortly to conquer Michigan and then lose itself as one more suburb in a vast industrialism that reached from coast to coast.

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Out in the dark road in front of the house in Bagley Avenue the motor barked and the floor boards shook with a fit of ague. The windows

across the street were promptly filled with neighbours roused from their sleep by the sudden racket.

Ford mounted to the tufted seat which bounced to the vibration of his motor. His wife was watching from the steps of the house as he pulled at the clutch that applied power to the wheels. The car lurched forward.

As to what happened next there are three classical accounts which have equal merit as authentic history. They differ widely in detail. But at least on this point they agree: that some time after midnight on a rainy night in April, 1893, a man who had worked three years to build a motor car drove to the end of a dark street in the first of sixteen million Fords and brought it home under its own power.

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CHAPTER IV

THE DISCOVERY OF A CONTINENT

AN ITINERANT mechanic who had nothing practical to his credit at the age of forty and a coal man who knew nothing about motors organized the Ford Motor Company in the spring of 1903. The mechanic was Ford. The coal man was Alexander Malcolmsen. Malcolmsen had travelled in the car that Ford had built and believed that the day might come when it would be possible to interest the public in an automobile.

No fireworks attended the founding of the company. It started business in a carpenter's shop which it had rented in Mack Avenue. Its equipment consisted of a small amount of machinery, a few models, and some bills. Its capital amounted to \$72,000 worth of paper and \$28,000 cash. More capital would have been welcome, especially in the form of cash, but there was not much ready money available in 1903 for the manufacture of a motor car. To the cautious investor the motor car was merely another means of rapid transit, and the field of rapid transit

seemed adequately cared for by an invention which had already achieved a smashing triumph. This invention was the modern bicycle.

It is a significant fact in Ford's story that ten years intervened between the building of his car and the founding of his company, and that these ten years were the same ten years that brought the bicycle craze to its dizzy heights of popularity.

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We live in a modern motor age, surrounded by the innumerable nickel-plated gadgets with which we have equipped the cars that take us on our Sunday tours, and we think of our roaming journeys up and down the countryside as something novel. Actually there is a precedent for these tireless pursuits from one filling station to another. In 1903, thanks to the bicycle, a large part of America had already taken to the open road.

It was the invention of the "safety" bicycle, with two wheels of even size—an invention made in the same year that Ford had begun to experiment with the gas engine—that was responsible for a new enthusiasm which had swept across the country. Until this time the only bicycles on the road were the old-timers with a curved backbone connecting an enormous wheel in

front with a miniature wheel behind. This type of vehicle appealed to lovers of sport who were willing to risk a tumble from a lofty perch, but it never achieved wide popularity.

The "safety" model arrived in 1887 and completely changed the situation. The new machine was low. It was easy to ride. It was simplicity itself to steer. In a few years it had chain gearings and pneumatic tires. Its success, with these improvements, was immediate and spectacular. There were twenty-seven factories manufacturing bicycles in the United States in 1890. At the end of another decade, the same decade that intervened between Ford's car and the founding of his company, there were more than three hundred factories manufacturing more than a million bicycles a year.

"Riding schools" sprang up in every city in the country. Ten million bicycles were on the road in 1900. The parking problem made its first appearance. Michigan and Illinois passed laws to govern "unusual modes of transportation." The ex-president of the Orange Wanderers assailed "the blind conservatism" of those stand-patters who regarded the bicycle as a menace. Committees of lady bicyclists demanded "the short skirt that reaches to the boot-tops," and a bicycle lobby arrived in Washington de-

manding better roads. In 1894 Dr. Graeme M. Hammond, in a paper read before the New York Academy of Medicine, described the bicycle as "a therapeutic agent undoubtedly of high value," and a woman cyclist who wrote for the newspapers under the pen name "Psyche" achieved the fame of an 1890 Helen Wills.

America had a new interest and a new enthusiasm. And as the styles of the "safety" changed from year to year, conforming to new fashions, an alert public which had bought up millions of bicycles took pains to keep abreast of them, debating the comparative merits of 26-inch handle bars, suspension wheels, and toe clips as eagerly as another generation was to debate the comparative merits of balloon tires, four-wheel brakes, and non-skid cords. Here was a chance to break the day's routine and a new antidote to office hours.

If Ford found it difficult in 1903 to obtain capital for the production of his motor car the bicycle manufacturers were in clover. Their invested capital increased by more than twelve hundred per cent. in the decade after 1890.

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Nor was all this capital being poured into the production of bicycles merely to enable travellers

to tour a mile or two of city streets, park for a while as best they could, and then come home to rest. Out on the highways that led into less settled country long lines of tourists rode each Sunday. Victors, Tribunes, and Imperials plugged along in the wake of Monarchs and Featherstones. On many a stretch of highway that was good for speeding Colonel Pope's new Columbia had it out with Stearns' Yellow Wheel. The pest of the road, in 1900, was the scorcher on his Sterling or his Stormer, head bent low over his curved handle bars as he trailed a cloud of dust across the countryside and burned up mileage on the road.

There can be no doubt that in the years from 1890 to 1900 the country had made its mind up to go touring. Road maps, heavily scored with detours, were already a national institution. The League of American Wheelmen was holding national "meets" which foreshadowed only by a decade the advent of the Glidden Tour. In Massachusetts and Rhode Island the bicycle lobby had forced legislation requiring townships to erect guideposts at crossroads and at forks. "It is now a very easy thing," wrote the president of the East Orange Cyclers in 1895, "to lay out a trip intelligently and plan all details in advance, with full knowledge of distances

between given points, the character of the various stopping places and the condition of the roads."

Even the matter of hotel accommodations had been given careful thought, and a membership ticket in the League of American Wheelmen entitled its holder to reduced rates at the early prototypes of the Terrace Gardens and Ye Willow Inns being built to house the eager throngs that swarmed the country roads. Advice as to the carrying of luggage was offered by authorities on touring. Luther H. Porter recommended "a night shirt, comb, tooth brush, a few handkerchiefs and a wash-cloth" for a trip of two or three days, with the suggestion that "for a trip of four or five days a change of underwear and shirt be added." J. Cleveland Cady proposed a travelling-box that could be carried in the rear: "In its stores should be included needles, thread, safety-pins, sticking plaster and a bottle of Pond's Extract and glycerine, half and half, a most useful remedy for cuts and bruises."

In these same years the cyclometer made its appearance: "a useful device for telling how far one has gone and what the rate of speed has been."

It was characteristic of the America of 1903,

no less than 1929, that when it took to the open road it wished to measure it.

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There was a moral here for that new pioneer, the manufacturer of a motor car. Plainly this America which had already taken to the open road, already discovered guidebooks, already equipped the highways with signboards and repair shops, already begun to agitate for better roads and to measure its mileage conscientiously on Sundays, was also an America which might reasonably be persuaded to take up a new means of locomotion, especially if the change would enable it to cover still more mileage at a higher rate of speed.

Certainly in 1929 it seems as if the America of 1903 was made to order for the motor car. But there was one trouble with the motor car. It was an innovation, and therefore, for the moment, something to be viewed with scepticism. That a nation which had shown itself agog for touring might in due course of time acquire an interest in the motor car few people in 1903 were ready to believe. Proof of the fact was Ford's difficulty, ten years after he was ready with his car, in finding capital with which to build it.

The trouble was, his friends assured him, that the automobile was illogical from whatever point of view it was considered. It would run—yes; but it could never cope with the heavy haul on an average country road or adapt itself to the repair work of an amateur mechanic. As a matter of production it was certain that no motor car could be built at a price that would develop a market wide enough to guarantee a safe investment. As a matter of law it was difficult to believe that any state or local government would really throw its highways open unrestrictedly to a fleet of cruising engines certain to demoralize traffic on the roads.

Discouragement was showered generously on the manufacturers of motor cars. People were told that the "horseless carriage" was dangerous to drive: an impression underscored from time to time by the occasional explosion of an early steamer. They were told that for every hour of driving two hours flat on the ground underneath the motor were a minimum: a statement all too often true, but true or false always good for a laugh in the pages of the comic magazines, where the automobile led a miserable existence.

So little headway had Haynes and Ford and Pierce and Duryea and the other early manufacturers made toward popularizing their prod-

uct that nothing which can properly be called an automobile industry had emerged by 1900, though the first cars were on the streets as early as 1893.

"The industry was too indefinite during 1900," said the government census of that year, "to give any value to statistics of capital invested, machinery and labour."

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It was a discouraging interim for a man who had just built something which he thought to be revolutionary, only to find that the public regarded his invention as a toy. Ford drove his car through the streets of Detroit, but the sentiment he aroused was not a sudden grateful recognition that a new means of rapid transportation had now been invented for a transportation-hungry nation; instead, it was a sense of wonder that this odd contrivance with its home-made motor and frail wheels would really run. "If I stopped my machine anywhere in town," Ford said years later, "a crowd was around it before I could start up again. If I left it alone even for a moment some inquisitive person always tried to run it. Finally I had to carry a chain and chain it to a lamp-post when I left it anywhere."

He was still housing his car in the shed be-

hind the house in Bagley Avenue, and for some years after he had begun making his weird trips through the streets of Detroit he continued to burn the candle at both ends, working by night in his shed and by day at the job with the Detroit Electric Company that earned his daily bread. In the machine shop he built a second car, like the first but a little lighter. In the books of the Detroit Electric Company he advanced from a mechanic at a salary of forty-five dollars a month to the post of chief engineer at a salary above a hundred. He might have gone on. But he had faith in these cars that needed chaining to a lamp-post. In 1899, shortly after he had built his second car, he gave up his job with the Detroit Electric Company and entered the automobile business.

It was his first experiment in finding capital for a young industry, and it was by no means a successful one. As Ford described it, later on, "a group of men of a speculative turn of mind organized the Detroit Automobile Company to exploit my car." The company was capitalized at fifty thousand dollars. Ford was chief engineer and held one sixth of the paper. The company had no great faith in its own future. It was founded on the theory that the motor car was doomed to fail, but that a few samples might be

unloaded in a hurry. No attempt was made to plan production for a market whose possibilities anyone had seriously attempted to explore. The Detroit Automobile Company did not go that far.

Working on the model Ford had built, a few cars were manufactured. Less were sold. After three years of confusion Ford left the company and went back to a machine shop of his own, to build another motor.

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It was to be a motor, this time, capable of burning up the road. For since the public stubbornly refused to become interested in the automobile as a means of transportation and continued to regard it as a toy, Ford had arrived at the conclusion that the one means of persuading the public to take the automobile seriously was to convince the public that it could be a very formidable toy.

Ford built two racers in his machine shop, one the "Arrow," the other "999." "Going over Niagara Falls would have been a pastime after a ride in either one of them," he decided later. They were ugly cars, with a treacherous swing to their rear wheels and a savage tendency to leave the road. Ford put four large cylinders into them,

and instead of the four horsepower in his first car, developed eighty. This was more power than had been put into any motor car to date; and since the steering wheel had not yet been invented and the car was controlled by a two-handed tiller, it required someone at home on a track to race it to advantage.

There were plenty of opportunities to race a car, once it was built. The Grosse Point track was near Detroit and a public which was still sceptical of the utility of motor cars would at least jam the stands to see them race. Ford heard of a professional bicycle rider with a reputation for dare-devil work and no sense of fear, and persuaded him to come east from Salt Lake City. His name was Barney Oldfield.

Oldfield learned to manage the tiller after a week's practice. He drove "999" at Grosse Point and swept the field in a three-mile race. He was a picturesque figure and the first of a new line of giants. Crowds swarmed to the tracks to see him race. So thoroughly was the automobile business a racing business, and so hopeless was the possibility of enlisting the public's interest without the performance of a stunt, that Ford himself took to the track in these same years. On the Grosse Point track he drove a two-cylinder car

with a skeleton chassis against Alexander Winton's "Bullet."

In the yellowing pages of a Detroit newspaper of October, 1901, may be found this item:

"Henry Ford broke into the front rank of American chauffeurs by the wonderful performance of his machine yesterday, but it is likely he will never again be seen in a race. The dizzy pace with the great danger of colliding is not to his liking. This does not mean that Ford will not go on the track again. On the contrary he is convinced that his machine is capable of making a mile a minute on a circular track, and he will go after that record—but he will have the entire track to himself. Yesterday was the first time he ever drove in a race. That he was an amateur was plainly shown by the way he took the curves."

Then followed this word of explanation:

"The automobile, however, is a side issue with Mr. Ford. He is spending busy hours at his shop perfecting a new automatic timer that will automatically time a race to the smallest part of a second."

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This casual comment adequately expressed what the public thought in 1901. The automobile

was a passing fad. There was something permanent and worth while about the manufacture of race timers.

Ford set out shortly after his race with Winton's "Bullet" to organize an automobile company of his own. He did not expect capital to flow in readily from the leading bankers of Detroit. Nor did it. His first partner was Malcolmson, the coal man. Malcolmson had sold coal to the Detroit Electric Company when Ford was that company's chief engineer and from frequent exposures had caught some of Ford's enthusiasm. Together the two men agreed to organize a company with a capital stock of \$100,000, of which they were to be equal owners of fifty-one per cent. Ford was to contribute his car. Malcolmson was to contribute his reputation as a business man and pay the bills of the company as it got under way, which he did to the extent of some \$7,000.

James Couzens was the second partner. Couzens was a clerk in Malcolmson's coal office, and the proverbial clerk who took a flyer. Couzens drew from the bank all he had by way of savings, which was \$900, borrowed \$100 from his sister against her better judgment, and bought ten shares for cash—with an additional fifteen shares on four-month notes. In the original set-

up of the company he had twenty-four shares and his sister one.

James Gray was the fourth investor, and a large investor in respect to ready cash. Gray was a business man and a friend of Malcolmson. He was a cautious investor, by no means swept off his feet as he considered the possibility of selling a bicycle-hungry public a newfangled automobile built by an unknown engineer; but he listened too long to Malcolmson, invested the sum of \$10,500 and became the company's first president.

Six hundred and forty shares were accounted for to date. The remaining three hundred and sixty went as follows:

To John F. Dodge and Horace E. Dodge, fifty shares apiece. The Dodge brothers were proprietors of a machine shop in Detroit and had agreed to manufacture 650 motors for the new company and to accept payment in the form of stock.

To Charles J. Woodhall ten shares valued at \$1,000. Woodhall was Malcolmson's bookkeeper.

To Vernon C. Fry and Charles H. Bennett, fifty shares apiece. Fry was a shopkeeper. Bennett worked for a company which made toy guns. Both were regarded by their friends as having made a mad investment.

To Albert Strelow, fifty shares. Strelow was a carpenter who, in the grab bag of fate, had happened to become convinced that the motor car was a practical idea. He had saved \$5,000, and this \$5,000 he put into the new company, paying for his stock with cash. Unfortunately, having paid for his stock with cash, he disposed of it for cash before the company was fairly under way and reinvested it in a gold mine in British Columbia, with the traditional result.

Finally, the last hundred shares went to two young lawyers in Detroit, Horace H. Rackham and John W. Anderson.

Against the advice of his banker, Rackham sold several small parcels of real estate and bought fifty shares, "with fear and trembling," he later testified.

Anderson had no real estate, but he had a father in Lacrosse, Wisconsin, who was a doctor, a kindly man and apparently a rash investor. Anderson sent a letter to his father describing the Ford idea, the new factory (rented at \$75 a month) which was "a dandy," the contract by which the Dodge brothers would make the motors, the simplicity with which the rest of the work of manufacturing an automobile could be done in the factory by "ten boys and a foreman," the price at which the company

planned to sell its finished product, and (time-honoured phrase in the letters of a young man to his father) the "wonderful opportunity" which was "not likely to occur again." . . . Dr. Anderson sent his son the \$5,000 which had been suggested as the appropriate sum for an investment.

With Anderson's \$5,000 the list of subscribers was complete and the books were closed. A little more than a fourth of the capital had been raised in cash. The rest remained on paper.

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Nothing more eloquently testifies to the scepticism which surrounded the advent of the automobile than these figures and the story they tell of the first Ford investments. It is not merely the fact that of a capital of \$100,000 only \$28,000 was subscribed in cash. Still more significant is the manner in which even this small amount of capital was raised. It did not come from the captains of finance, the shrewd insiders who, in the legends of big business, invariably stand guard over the fortunes to be reaped through the exploitation of each new invention. It came, instead, from rank outsiders: shopkeepers, carpenters, and men who borrowed money on their wages.

It was chance, and not an impersonal and scientific survey of the future of the motor car conducted by great bankers, that drew most of these men into the adventure. Ford happened to know Malcolmson because Malcolmson sold coal. Malcolmson happened to know Gray. Couzens and Woodhall worked in Malcolmson's coal office. The Dodge brothers happened to have a plant available. Anderson and Rackham happened to draw the contract by which the Dodge brothers agreed to supply the new company with its motors. And all these men, investing as much on paper as they could and as little in cash as seemed permissible, were assured by their friends that they had blundered. For the world at large was convinced that the automobile was a whim that would not last.

And yet, in these same years, the handwriting was written on the wall. Despite all the doubts of the first investors, all the head-shaking over the public's lack of interest, all the jokes in the comic papers, and all the persuasive proof that nobody wanted this new invention, the times were ripe for the motor car. Only one theory could explain the bicycle craze of these same years: the all-day rides and the Sunday tours, the cyclometers and the road maps, the knapsacks on the handle bars and the determination

to explore the country. This was an America with its heart set on more travel.

Nor are some of the reasons hard to find. For the scene had changed materially since the days when travel was not the Sunday afternoon diversion but the prescribed lot of successive generations of Americans as they followed the frontier west with their pack trains and prairie schooners. The America of 1863, the America with which Ford's story started, was an America which still had millions of unclaimed acres in the West and long caravans of settlers trailing the river valleys in an eager search for homes. Then in a few swift decades came the triumph of steam and steel, when a new industrial civilization spilled over its frontiers in the East, spread west along the trails of the early pioneers, and dotted the prairies with raw factory towns that promptly rebuilt themselves as modern cities. Now came a day when the cities themselves seemed confining things, shutting men off from their God-given and inalienable right to travel.

The bicycle, a humble means of locomotion, came into a modern city world as one means of escape from the metropolis which had trapped men into immobility even as it gave them new opportunities to live in modern comfort. And now on the heels of the bicycle came this still

newer means of transportation: scoffed at, hooted, apparently unwanted and unwelcome—but capable, none the less, of widening still further the orbit of adventure for a restless urban population walled up in its ever-growing cities.

A few years more, and for thousands of Americans there would come the joys of a Sunday spent in the country with an untamed motor. No thrill imparted by the patient pedalling of a bicycle up and down resentful hills could match this new excitement. With high hopes for a cloudless day and all hands buttoned to the neck in linen dusters, the family would embark at break of dawn on Sunday morning. Out in front of the low dash surmounted by a rail the brass backs of two huge lamps would sparkle in the sunshine with the glow of honest labour. Under the leather cushions of the seats would be packed sandwiches, tubes of talcum powder for the tire patches, a clean stick with which to measure the gasoline from time to time, a can of acetylene for the lights, and a shoe box filled with extra spark plugs.

Mother would wrap around her throat the long white veil that swept untrammelled to her knees. Father would adjust with care the elastic strap that held in place the goggles meant to keep his vision clear at twenty miles an hour. On the

bright black seats in the tonneau that overlooked the rest of the car from a height of several feet, the children would bounce to the slow vibration of the motor.

One last look on Father's part to make sure that there was air enough in the front tires; one last look on Mother's part to see that the ice-box latch was securely locked on the narrow door that gave access to the tonneau from the rear—and the moment had arrived for an auspicious start. Mother would mount to the front seat with the log book on her lap, ready to record the official moment of departure. Father would take his place at the wheel and try the brake for safety's sake; then sound the horn for a clear road ahead and let the motor have its gas. Out into open country would ride another band of fugitives from the brick jungles of the cities.

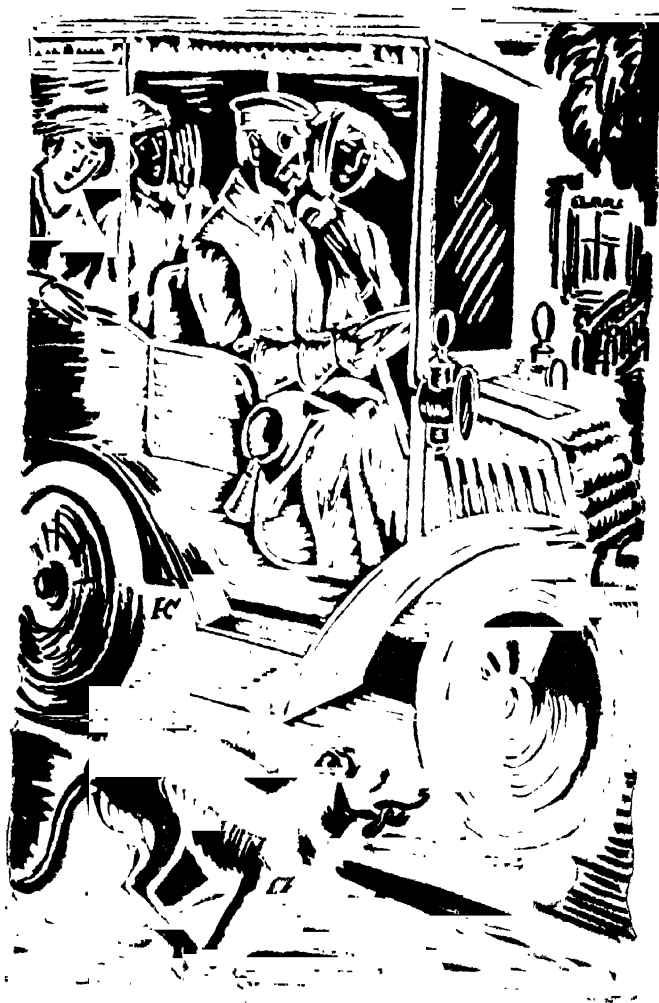
Bound for what adventures before the sun had set, who knows? Possibly for an exhilarating run between two distant towns that looked alike, with a new record for the log book. Possibly for mud up to the hubs, all afternoon, on a road that had not yet been reclaimed from nature. Possibly for a test of speed and wits on a dry road with an upstart rival who had tried to slip by in some low-powered car, winding up in a dusty victory cheap at the price of the day's first blowout. In

any case, for a change of scene and an open trail and a sense of playing pioneer once more, in a nation that had turned its back on the open trails and settled down.

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The age of gasoline had dawned. The quiet of the country road was gone forever. So were isolation and the last frontier. A new era started. If it was to bring with it, among other things, undreamed-of wealth for some of the eleven men who happened to invest their funds in Ford's first motor car—enabling Anderson to turn his father's \$5,000 loan into more than \$15,000,000 cash and Rackham to reap a profit of three hundred thousand per cent. on the value of his real estate—the result was something more than luck. It was something in the best tradition. For it happened that these ~~eleven~~ men were to give millions of their countrymen new access to the open road and a chance to see for themselves an America they had never seen but only heard about.

As much as any eleven men these eleven opened America to Americans. They took the reward proverbially due the discoverers of a continent.



CHAPTER V

MODEL T AMERICA

THE two-cylinder covered wagons in which the American people set out to explore their hills and valleys in the first days of the motor age lacked comfort and convenience. Their seats were stiff, their lights were bad, their engines smoked and over-heated. Dust swirled in over dashboards that had not yet been equipped with windshields. The prelude to every outing was an experimental tussle with the motor, spinning a crank in the side of the car, waist high and difficult to handle. The motor itself was not accessible for the repairs which it all too frequently required, but hidden underneath the body where only a gymnast could get at it.

Yet despite all this there was a joy in the early motor car that rose above its engine trouble and belied its plain exterior. The public might be sceptical. It might be convinced that the automobile was a momentary fad. It might believe that the bicycle was a better vehicle for a man with a small income and a more reliable means of

transportation. But once let the public try this innovation and its future was assured. Not all the inconveniences of radiators that boiled over in summer and froze in winter, engines that choked, carburetors that needed constant tinkering, and tires that had to be pried off with a chisel could mar the first fine thrills of covering a hundred miles of countryside and stepping on the throttle.

There was one question that needed answering first: Could the motor car be brought within reach of the vast public that regarded it as a mere toy for men with money?

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It is difficult now, in these days when the automobile as an institution is as commonplace as a mail box and there are more four-door coupés to every twenty barnyards along the country roads than carriages and buckboards, to realize that in the first years after the turn of the century the motor car was a symbol of class-consciousness.

This was true for a variety of reasons, but fundamentally true because the automobile began as a luxury which only the wealthy could afford. The first high-powered cars that raced along the dusty highways in the early 1900's,

while American inventors were struggling against odds to organize fly-by-night companies which failed nine times in ten, were cars imported by the rich from Europe. In 1903, when the Ford Motor Company was founded with less than thirty thousand dollars in its treasury, more than a million dollars was spent by Americans for foreign cars; in the following year nearly two million dollars; and in the next year, well over three. These cars were expensive cars, their average cost running above five thousand dollars.

Moreover, the first cars produced by American manufacturers were turned out at a cost that remained prohibitive for the man of average means. In the somewhat experimental Automobile Show held in New York in this same year in which the Ford company was founded only four cars were exhibited at as low a price as five hundred dollars, and these four were not really motor cars but playthings: three of them being miniature roadsters with four-horsepower engines, and the fourth an electric toy for children which derived its motive power from twelve batteries. The price of a "standard gasoline tonneau touring car," according to the New York Times of January 25, 1903, "ranged from \$1,000 to \$8,000"—and anything in the neighbourhood of \$1,000 was exceptional. Five automobile

companies with names that bring back memories of other years ventured to announce their prices through advertisements in the Times while this early show was running: the Toledo, the Mobile, the Searchmont, the Rambler, and the United States Long Distance—and of these five only the Rambler sold below \$1,800.

It seemed all too probable in 1903 that the motor car was an invention designed to please only the well-to-do. Worse still, this was an invention which would apparently oppress the poor. "So much leather is used nowadays in the manufacture of automobiles," said an editorial in the New York World, "that hides are higher, leather is higher and so on down, step by step, until the price of boots and shoes is raised. It is the same story with rubber. The demand for crude material in the automobile trade has hoisted prices all along the line. The more people ride, the more the man who walks pays for going afoot. The automobile has developed into an expensive luxury for the people who do not use it. It was well named 'the devil wagon.'"

Devil wagon it was, for its contribution to the cost of living; for the extra taxes it levied on the farmer to keep his roads in good repair; for the horses it scared and the cows it killed; for the oil and gasoline it dripped on city streets; for

the noise it made when its owner left it chugging at the curbstone lest its motor freeze in winter; for its toll in human life so heavy and apparently so deliberately planned that the New York Tribune warned its readers, "It would not be surprising if science discovered, one of these days, that motor murder is a specific form of human perversion and depravity."

And yet, despite all this, despite the high cost of motor cars, their favouritism toward the rich, their menace for the poor, and the havoc they wrought on city streets and country roads, in the long run there was no denying the irresistible appeal of a mechanism that could annihilate distance and devour time. All the ingredients for the making of a great American enthusiasm were present in these early cars that took to the roads in the years from 1901 to 1905. The only question was whether the automobile would remain what it had started out to be, a rich man's fad, or whether it could bring a new means of transportation to a restless country which had long since shown its eagerness to search the hill-sides for its lost frontiers.

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The Ford company's experiment in finding an answer to this question began in June, 1903, in

the shop on Mack Avenue rented from one of its own partners, Strelow, the carpenter. This was the same shop which young Anderson, writing to his father, had described as "a dandy" for the manufacture of a motor car. Actually it was by no means a dandy. It had no machinery for manufacturing a motor car, nor had the company any money with which to buy machinery. Its first car was a synthetic car, with a motor made by the Dodge brothers and ninety per cent. of the rest of its parts bought from outside factories equipped to work from Ford's designs.

This car was Model A, with two cylinders, an eight-horsepower motor, a chain drive, low dash, short mud-guards hung like eyebrows at a rakish angle over each of its four wheels and two small iron steps in lieu of a running board which had not yet been invented, by no means easy to find on a dark night, sharp edged, and slippery. Model A cranked on the side, like most cars in these years, and had a removable tonneau that slid on and off its rear. Of this model the company said in its first advertisement:

"An automobile specially designed for everyday wear and tear. . . . Built to save you time and money. . . . Built to take you anywhere you want to go and bring you back on time. . . . Built for business or for pleasure. . . . Built also for the

good of your health—to carry you ‘jarlessly’ over any kind of half decent roads, to refresh your brain with the luxury of much ‘out-dooriness’ and your lungs with the ‘tonic of tonics’—the right kind of atmosphere.”

Model A was a prompt success. It sold (lamps, horn, and windshield extra) for \$950—a price too high to bring it within reach of the great mass of potential buyers and convert them from the bicycle to the motor car. But it was a low price for these years, and it found ready takers. “The business went along as if by magic,” Ford said, later on. It was aimed at a road-hungry public longing for travel and “out-dooriness,” and nothing slowed it down.

Unforeseen differences of opinion developed among the stockholders; they proved to be a godsend. The famous Selden suit over patent rights brought the company into court; it gave the Ford car advertising that it had never had before. Competition flourished in the form of new companies invading the field in a sudden rush to produce new models; if competition forced prices down it merely widened the market for more motor cars.

Through these first headlong years of a new automobile age, with styles changing as rapidly as the seasons and rival manufacturers ballyhoo-

ing the superior virtues of suddenly discovered features, the Ford company lived and prospered.

In its fourth year it had advanced to a point where it put together, out of the parts it bought piecemeal, one motor car in every six manufactured in the United States.

That year the company left the carpenter shop in Mack Avenue and out of its working capital built a three-story plant that gave it a chance to do some manufacturing of its own.

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No doubt some of the causes entering into the success of the Ford venture in its first years belong with the imponderables and are difficult to measure. Yet it is possible to distinguish at least a few of the factors which enabled this company to take advantage of the interest in automobiles that was in the air and to set the pace for its competitors.

A French car skidded on the sand in the motor races at Palm Beach in 1905, when the Ford company was three years old, and smashed itself to pieces. After the photographers had had their inning and the crowd had gone back to the next race and a new round of thrills one of the spectators went to the wreckage and explored it. There was one small part in this mass of twisted metal,

a valve-strip stem, which had not been battered out of recognition. The man hefted it and found that it was light; yet it was plainly strong; what was it made of? No one at Palm Beach seemed to know. So the man put it in his pocket and brought it home with him.

The man was Ford, who had come to Palm Beach to enter one of his early models in the midwinter races because winning races was still an effective way of selling cars. And the valve-strip stem, he discovered on his return to Detroit, was a French steel with vanadium in it. It was a new steel, light enough to solve the problem of weight in a low-priced motor car. Ford brought a man from England who knew how to produce it. He found a steel company in Canton, Ohio, that would make it. And with vanadium steel in hand he pulled his cars apart and built them over.

Willingness to experiment with new materials, to take advantage of new methods, and to profit from every discovery, however accidental, was one factor that contributed to the success of the new company in its experimental years. With it went "Ford service" and "Ford salesmanship," which had progressed to a high point of efficiency even in these early days before salesmanship had become a science with post-graduate courses in

the psychology of breaking down resistance taught by professors in a thousand schools and colleges.

No doubt there was enough here to send the company off to a good start, especially in view of the long lead it had over most of its competitors, the merits of Ford's designs, and the rapidly developing market for an automobile as its cost came down.

Yet if this were all, and if these years had contributed no other factor, it is doubtful whether the Ford company could ever have become the amazing phenomenon it is to-day. Certainly it would never have caught the spirit of its times or become a great tradition.

The decision that gave significance to this adventure came suddenly in 1909.

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Prosperous enough in 1908, at the end of its first five years, the Ford company had gone along in an average way since 1903, and most of its owners saw no reason for a change. Year by year the company had built motor cars not on the theory that they could ever become as commonly used and as durable as sewing machines and telephones, but on the theory that they were perishable products and that each year's models

must be varied from the previous year's in order to attract the public's interest.

Model A, in 1903, had been followed by Models B, C, and F in 1904. They were a miscellaneous lot. Model B was a four-cylinder car with twenty-four horsepower instead of the eight of Model A, a side-entrance tonneau instead of a rear-entrance tonneau, and the widest mud-guards that had yet appeared upon the open road. Model C was a two-cylinder car like Model A, but had a radiator out in front, a longer wheelbase and mud-guards that hung from its sides like narrow strips of ribbon. Model F was distinguished chiefly for three features: the first experiment with a collapsible top, the first experiment with a running board, and a tonneau so high above the seat in front that it seemed to be pitched on another deck entirely.

For two years the company stood pat on these three models; then it faced about, discarded its touring cars entirely, and brought out Models N, R, and S, all runabouts. The following year it faced about again, after its earlier decision to build runabouts exclusively, and brought out Model K, a six-cylinder touring car that weighed a ton.

To date, in its first five years, the company had experimented with everything that it could

think of. It had built cars with two cylinders, cars with four cylinders, and cars with six cylinders; cars with horsepower ranging all the way from eight to forty; cars with cone clutches, cars with disc clutches, cars with chain drives, cars with shaft drives, cars with doors in the rear, doors on the side, and no doors at all.

By 1908 the company had used up eight letters of the alphabet to name its models and wasted eleven others on experimental cars which it had built but never sold.

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It had been a pleasant and a profitable venture. Some models, to be sure, had not done so well as others. Some years had shown a sharp and unanticipated drop in profits. But on the whole the first five years had brought success beyond the dreams of the partners in this venture. The company had made a net profit of well above two million dollars and earned its stockholders the satisfactory sum of ten thousand per cent. on their modest cash investment.

Looking back over this record, most of the stockholders agreed that the world was good and that the company was doing beautifully. "If I had followed the general opinion of my associates," Ford said, later on, "I should have kept

the business about as it was, put our funds into a fine administration building, tried to make bargains with such competitors as seemed too active, made new designs from time to time to catch the fancy of the public and generally have passed on into the position of a quiet respectable citizen with a quiet respectable business." What better could the future hold? This might have been a world of dreams come true. But Ford himself had an idea.

It was an idea the full force of which had struck him in the fourth year of his company's adventures with its ever-changing models. This was the year that Ford had built three runabouts. None of the three was noticeably different from the other two, except that Model S had a rumble seat; but all three had sold at new low prices, and the result had been impressive. Sales jumped in a single year from sixteen hundred cars to well above eight thousand cars. Profit on each car sold had been discouragingly small. But total profit for the year had multiplied by ten the total profit for the year before.

It was the idea of a motor car which would take advantage of these figures that dominated Ford: a motor car so cheap and so far below the price charged for any motor car to date that the great mass of Americans would be able to buy it

and in fact almost compelled to buy it. Why not standardize on a single model, cut prices to a new low level, and aim at a vast market that was still untouched?

Ford expounded the idea to his salesmen and his partners. His salesmen did not like it. They thought the company ought to have more models instead of fewer models, models of all sizes, all fashions, and all horsepowers, models appealing to the individual taste of every customer. Sell Tom, Dick, and Harry the same car, cut from the same universal pattern, with nothing to distinguish it from every other car built by the company that year? How could even a live-wire salesman be expected to dispose of a line that had the monotony of a single model?

As for Ford's partners: the chagrin of gentlemen who had heard it proposed to tamper with the divine processes which had brought in a return of ten thousand per cent. on their investment in five years can easily be understood. Most of them had no use for this proposal, saw nothing in it that was good, and could not understand how it had emanated from a man who had hitherto earned the right to be considered level-headed.

Ford was outvoted by his partners. But having

bought out his chief partner, Malcolmson, in 1906, and having come into possession of fifty-one per cent. of the outstanding stock, Ford won.

Over the dead bodies of his colleagues he took the Ford company into mass production.

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What mass production means, in 1929, it would take a national referendum to determine. The phrase by this time has had most of its vitality worn away by repetition in too many headlines, too many company reports, and too many after-dinner speeches. It has become a catchword and a mere superlative. Every company breaking its own record for the production of felt hats or overshoes, every factory setting new standards of efficiency in the production of leather belts or laundry soap, every peanut stand that sold more peanuts this year than the last, has entered "mass production."

What Ford did with mass production was not to discover it, for mass production was implicit in the machine processes that had been remaking America for fifty years, but to apply it to the manufacture of a motor car and develop it religiously.

This much at least seems characteristic of

mass production: it does away with hand work as far as possible and substitutes machines. It breaks up every job into small units which are almost automatic. It maps out a logical sequence of operations for everything it handles. And it turns manufacturing into a series of repetitive processes by men and machines geared to whatever speed will produce a maximum efficiency.

These principles were not only thoroughly understood by 1908: they had been the goal of manufacturers for many years. "Scientific management" had been tried out by Frederick W. Taylor in the Midvale Steel plant as early as the 1880's, and by 1908 Taylor and his disciples had for more than twenty years been putting a tape measure to everything inside a factory and trying to create a standard practice for every operation.

Meantime machines themselves had long since acquired a high degree of efficiency in doing with steel fingers work which for generations past had been the work of human hands. As early as the Civil War machine-made boots had built up comfortable fortunes for contractors supplying the Union armies, and by 1870 machines had been built that could turn out as many as three hundred pairs of boots a day. Cutting machines capable of stamping patterns through many thick-

nesses of cloth had been introduced in the clothing industry by 1876. Machine methods spread rapidly through other industries. Well before the turn of the century small parts for such contrivances as telephones, bicycles, and typewriters were hammered out by high-speed machines with the precision of machine guns.

To the early manufacturers of motor cars, however, it seemed clear that there was a limit to such methods and that they could not be applied successfully to a product as complex and as highly varied as an automobile. For an automobile had none of the simplicity of boots and clothing and none of the consistency in pattern year after year that went into the making of a telephone or a typewriter. There was nothing here that could be cut out of cloth or leather with a die and stitched together on a few machines. There were few simple parts, outside of screws and bolts, that could be turned out by the barrel by any machine process that had yet been invented. A motor car was a complicated product built up out of five thousand widely varied parts, of all sizes, all materials, and all patterns, some as bulky as ten-gallon tanks and others as delicate and fragile as a mainspring in a watch.

It was the important fact about Ford's decision to stake the soul of his company on a single

model that it gave him a chance to standardize the five thousand odds and ends of metal, leather, wood, and glass that made a motor car. If the designs of these parts were not to change from year to year, to appease a sales force clamouring for new models, then the business of manufacturing a motor car would enter a new chapter. It would be possible to figure far enough ahead to build machines to perform skilled work which had hitherto been done by trained mechanics. It would be possible to use these machines to turn out parts for motor cars as rapidly as earlier machines had turned out army boots or carpet tacks. And with parts so standardized as to be interchangeable on every car it would be possible to assemble an automobile on a moving line that would keep production constantly in motion.

Ford built the car that his partners confidently expected would bring the company to grief. He assembled it out of the most successful features of the earlier models he had built. He put it on the market for the first time in 1908. And he announced in 1909 that henceforth the new car would stand alone, that the Ford company had faith in a car "built for the multitude," and that from this time forward there would be no new

models, no new motors, no new bodies, and even no new colours.

“Any customer can have a car painted any colour he wants so long as it is black.”

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So read the credo of a new venture in mass production. And there is no doubt now that the experiment which began in 1909 had the logic of events behind it. For what was happening in these years was a change of scene in the United States into which Ford's faith in standardization fitted as naturally and as logically as the motor car itself had fitted into the aspirations of a travel-hungry public.

It had been forty years, in 1909, since industry had discovered steel and developed oil, and the processes set in motion in Ford's boyhood had been carried far.

Railways were one-track roads that travelled the beaten paths in 1869; in that year only one main line had been thrown across the country, and there was not enough railway mileage west of the Mississippi to carry the local mails. Now a quarter of a million miles of track criss-crossed both the East and West, and the barriers between remote localities were gone forever.

Cities had grown. Modern industry had spilled over the brick walls of its factories and carried new standards across the country. Local interests were no longer dominant, as they had been in 1869, when no press associations marketed the day's news, and even in the cities a four-page paper that folded like a napkin was large enough to carry a complete report of what had happened in the world. News by 1909 was national news; two giant press associations now had more than fifty thousand miles of leased telegraphic wire to report the day's adventures; and when anything of importance happened anywhere, when the market soared, or Georgia went dry, or Dan Patch broke the record for the mile, or American marines were landed in Honduras, the whole nation had the news by supper time.

This America of 1909 was a more compact America than the America of 1869, and the same processes that had given it cohesion had begun to stamp it with a modern uniformity.

Factories poured out standardized products that flooded every market. Chain stores carried the same merchandise at the same prices with the same coupons all the way from Texas to New Hampshire. Standards that were nationwide were applied to college entrance examinations, periodical literature, and Grade A milk

and butter. Mail-order houses issued catalogues two inches thick with goods that were bought up willingly by customers three thousand miles apart. Boiler plate and syndicated features in the newspapers fed tenements and prairie towns the same catchwords and the same universal patter. Fads that got a good start on either coast swept suddenly across the nation. The gramophone had nationalized the country's taste in music, and song hits from *The Merry Widow*, *The Yankee Tourist*, and *The Girl Behind the Counter* were whistled in the streets of Spokane and Carson City while they were still fresh in Forty-second Street.

Plainly provincialism was going down before an advancing tide of uniformity and remote corners of the country had begun to look alike. Within a few years the American Institute of Architects, combing the scene for something that still smacked of the old frontier, was to declare:

"Local characteristics are fast disappearing in this era of common thought and mechanical advancement. Communities are coming to look more and more like peas from the same pod. . . . Both the individuality of various geographical locations and recognition of their local conditions are fast disappearing under the influence of a cosmopolitan type that makes no distinction

between North and South, East and West, seaboard or inland, lowland or mountain type."

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The stage was set in 1909 for the popularization of anything that could take advantage of America's likemindedness. In its own way the Ford car wrote the history of these years.

The tonneaus and the mud-guards of the early models—as heterogeneous as the old frontiers themselves—came off now, to make way for a new style as standardized as the fashions of a new America.

The motors that had tried every method of ignition in combination with every length of stroke and every size of bore now struck a pattern as uniform as the pattern of a thousand modern factory towns.

The merry blues and the dapper grays that had made the old Ford cars a bright parade as they left the factory in the days of hand work now gave way to a single colour slapped on the flanks of these new cars with the same broad brush of mass production that had repainted the whole nation.

When the new model came to be christened it was launched as Model T: deriving from its own turn in the alphabet an historic letter.

For eighteen years the car that Ford built "for the multitude" in 1908 was to be a landmark on the national scene as familiar as the eagles on its dollars and the cornfields on its plains.



CHAPTER VI

AMERICA DISCOVERS FORD

HALF a million Model T's were on the road by the end of 1913. Mass production was in full swing in a new plant at Highland Park. Ford cars were coming down the assembly line at the headlong pace of eight hundred trim and shiny cars a day. Yet Ford himself, despite all this, was still unknown. In 1913 there were not hundreds but thousands of Americans—sportsmen, pure-food experts, musical-comedy stars, multi-millionaires, politicians, prohibitionists, revivalists, and heroes in the early moving-picture serials—whose names were far better known than Ford's, and whose exploits were far more eagerly debated.

In fact, it is difficult to find any trace at all of Ford up to the end of 1913 in the pages of the periodical press and the daily newspapers that chronicle contemporary history in the making. It may be difficult in 1929 to picture a world in which the weekly magazines appeared fifty-two times a year without discussing Henry Ford; yet

such a world existed. The library guides that list the contents of a hundred magazines with a national circulation show only a single reference to Ford before the end of 1913. This solitary entry cites an article in Harper's Weekly of March 16, 1907, discussing Ford's use of vanadium steel from the none too popular point of view of the metallurgical engineer. Aside from this there is nothing.

Nor does the daily press in these same years reveal much more by way of proof that such a man as Ford existed. Here and there, in the years from 1903 to 1908, the long litigation over the Selden patent brought Ford's name into print occasionally. Here and there, when an automobile show was about to open its doors to the public and automobile manufacturers were invited by the press to describe their latest models, the name of Henry Ford may be found attached to a routine discussion of Ford brakes, Ford bearings, or Ford methods.

In one other rôle, and only one, did Ford ever interest the press in these early years. His experience on the track, from 1901 to 1904, had won him a momentary hearing among the baseball scores and the gossip of the turf on the sports pages. For a brief moment Ford had held the world's record for a mile on a straightaway track,

and inevitably there had been a flurry in the headlines.

This was in the early days of the Ford company, in January, 1904, when Ford had taken the "Arrow," twin of Barney Oldfield's old "999," out onto the ice at New Baltimore, Michigan, and bounced it over a sanded course for a mile in forty seconds. For two weeks the press kept Ford busy telling the public how it felt to travel one hundred and thirty-four feet a second, whether the wind had cut his face, and whether it was true that his car had catapulted forty feet when it struck a crevice in the ice. Then a new record for the mile was established by a Mercedes at Ormond, and with it went Ford's fame.

Two weeks in the headlines as a racer, and then oblivion; a few references now and then to the Selden suit, and a few perfunctory discussions of Ford's methods: this comprises the public record up to the end of 1913 of a man who had made five hundred thousand motor cars and already begun to upset the habits of the nation.

Henry Ford, inventor of his own motor car, protagonist of the art of mass production, and prophet of a new age of standardization, had been a significant figure on the American scene for at least a decade, but neither the press nor the nation had discovered him.

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The trouble with Ford, as material for a national gallery of celebrities, was the fact that up to this point there had been no one event in his career sufficiently colourful or dramatic to single him out from the great army of his countrymen, and therefore no one convenient tag with which to label him whenever his name appeared in print.

His career as a racer had begun promisingly enough, and as the mouldy pages of newspapers dated early in 1904 still show, at least part of the press had warmed up to him enough in these sporting days to stop calling him Henry Ford and begin calling him Harry, a distinct advance toward a national reputation. No doubt if he had kept on racing on the ice and kept on breaking records, inside of a year the press might have christened him Dare-devil Harry or Lighthorse Harry Ford, and the public would have discovered him a decade earlier.

But the racing ended; and since new records for the mile were nothing extraordinary in these days, but were constantly being made and broken, the mere fact that Ford had held the record for two weeks was not in itself enough to bring him glory. Thereafter there were only his motor

cars, his price cuts, and his mass production. And however spectacular these things were shortly to seem to a vast public, admiring them in retrospect, there was nothing about them to enlist the public's interest at the time. Fame does not come to manufacturers because they are masters of their trade. It comes to them because they marry grand-opera stars, buy baseball teams, refuse to answer the Senate's questions, short-change the government on their tax returns, offer prizes for long-distance swims, or take up Freud.

In a busy nation, living at top speed and intent upon a thousand diverse interests and enthusiasms, it is inevitable that this should be the case. A record of achievement in itself is not a guarantee of fame. The public has neither the time nor the means to explore this record. Its interest is caught only when some unique event explodes into a series of reverberating headlines and another Miracle Man, a new Colossus, Three Musketeers, or Four More Horsemen of the Apocalypse capture the attention of the nation.

Ford had been breaking ground in industry for at least five years in 1913. He had been building up a fortune by defying the accepted theory that the only way to find a market for a product as expensive as a motor car was to vary his pro-

duction constantly, and he had filled a young nomadic nation with hundreds of thousands of new vehicles of cheap and rapid transportation. He was the same man in midsummer 1913 and in midsummer a year later. But between these dates the picture changed entirely. In 1913 he was a man known only to the motor trade and his fellow townsmen in Detroit: a successful manufacturer whose name inevitably appeared in print from time to time, but a man unheard of by the nation. One year later reporters were dogging his footsteps with demands for interviews, photographers were hopping out at him from behind fence posts and motor trucks to snap his picture, personal impressions of him, written by eyewitnesses, were selling magazines from one end of the country to the other, and editors were telegraphing him for his opinion on the next election, the price of copper, and the war in Europe.

Something happened between midsummer 1913 and midsummer 1914 that made Ford a first-page feature.

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The factor that brought Ford suddenly and dramatically from obscurity to the centre of the stage was neither his car nor his mass production

nor his millions, but his five-dollar wage. On the evening of January 5, 1914, newspapers all over the country carried the announcement that the Ford Motor Company had decided to divide with its workmen the princely sum of \$10,000,000 for the purpose of establishing five dollars as the minimum wage paid to its employees in return for a day's work.

At bottom the plan was not a plan for a five-dollar wage but for a method of profit sharing. As a profit-sharing plan, however, it differed from many of its predecessors in several respects. In the first place the bonus was to be appropriated beforehand out of estimated profits and paid out regularly with wages instead of being taken out of assured earnings at the end of the year and then distributed. In the second place the sum appropriated for this purpose was large enough to constitute approximately half of what the company expected to earn as its year's profits and approximately half of what some of Ford's associates had looked forward pleasantly to receiving in the form of dividends.

Nor was this all. The plan contemplated not only a diversion of half the company's anticipated profits to an unexpected purpose, but an experiment in human nature. A new department of social welfare was to keep a friendly eye on

the employees of the company, doing its best to make sure that profits so spectacularly shared did not go to waste in careless living and "exercising the necessary vigilance to prevent, as far as possible, human frailty from falling into habits or practices detrimental to substantial progress."

Finally, it was the keystone of the plan that when the profit-sharing bonus was added to the existing wage every workman in the Ford factory would receive a minimum of five dollars for a workday of eight hours—at a time when five dollars was a royal wage paid only to skilled labour. As the New York Times put it: "The lowest paid employees, the sweepers, who receive \$2.34 a day in Ford's plant for work which in New York City may claim from \$1.00 to \$1.50, are now to receive \$5.00."

It was a good story for a news-hungry press, and a good story especially for one reason. It turned upside down the conventional relationship of employer and employee and staged the spectacle of a corporation head apparently cutting his own profits in two for the purpose of putting unskilled men in his plant on a par with skilled men in other factories, at a time when unskilled men were ready to work for him at less than half his price.

Out of a clear sky and on a lavish scale a successful business man had chosen suddenly to experiment with the divine law of supply and demand by paying double the market value for his labour.

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The effect of the Ford wage announcement was immediate and spectacular.

On January 6th, the day after the news had reached the papers, a crowd of ten thousand men gathered at the Ford plant prepared for the millennium.

On January 8th, as the crowd increased, the Ford company issued a statement warning workmen from Indianapolis, Cincinnati, Milwaukee, and other cities in the Middle West against coming to Detroit.

On January 12th, the day the new plan went into effect, twelve thousand men did their best to storm the gates at Highland Park, apparently ready to leave everything to Providence if they could only get inside, and then fought for two hours in the streets with the police who came to drive them back from a chance they would not be denied.

Meantime, outside of Detroit, a new name acquired magic. The reception given this event from a distance of six hundred miles by the New

York press was typical. The Sun described it as "a bolt out of the blue sky flashing its way across the continent and far beyond, a message which appeared on the front page of practically every important newspaper in the country and announced something unheard of in the history of business." The Times expected "serious disturbances" to follow from a policy which was "distinctly Utopian and dead against all experience," but agreed that "the whole world was startled." The Herald described the event as marking "an epoch in the world's industrial history." The Evening Post called it "a magnificent act of generosity." The World hailed Ford as "an inspired millionaire," and the American promptly added a new feature to its Picture-puzzle Contests and Best Jokes at the Theatre, called Maxims of the Man of the Hour.

Man of the Hour, certainly, was Ford's rôle at the moment. Mail poured in on him from all corners of the country, offering comment, co-operation, constructive criticism, and encouraging advice. Students of economics, veterans of profit-sharing plans, and experts on employment problems volunteered their services. Telegrams poured into the Detroit newspaper offices from other newspapers outside, asking who Ford was, how he lived and what his hobbies were and

whether he had any message for the people of America.

The New York Times sent a man to Detroit to discover whether it was true that Ford had said he did not wish to leave his son a fortune and ask the point-blank question whether or not he was a Socialist.

The Secretary of Commerce issued a statement to the Associated Press. The Hearst newspapers hit upon the slogan, "Ten Million Dollar Ford," and used it with copyrighted illustrations by staff artists. Pictures of the Ford plant, the Ford farm, Barney Oldfield, Ford's first factory, and the old "999" began appearing in the early rotogravure sections. Fifty-two columns of Ford news were printed in seven days by a New York press which had ignored Ford entirely the year before. And at the annual flower show in the Grand Central Palace a horticulturist of Rutherford, New Jersey, exhibited a white orchid with a yellow centre christened "Mr. and Mrs. Henry Ford."

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It was a typical American performance, and typical because it showed how promptly a large public discovered what had long been before its eyes, the moment the headlines convinced it it was there. This new turn in the affairs of Henry

Ford not only threw into the limelight his five-dollar wage; overnight it revealed the whole Ford enterprise as something with which the public felt at once that it had long been familiar. People who had never thought of Ford a month before were now talking of the "Ford idea" and the Ford theory of mass production as things they had thought about for years. People who had never considered the Ford car except in the light of a dusty interlude in an otherwise pleasant Sunday tour now saw in it the dawn of a new industrial idea.

There is no doubt what had happened. America had discovered Ford. And when the author of this wage plan came to New York in the same week that his announcement had captured the headlines he did not arrive as he had arrived a score of times before: unheralded and unsung, an average visitor from the West in the metropolis on private business. Instead he found the reporters waiting for him at the railway station and the flashlights popping in the corridors of his hotel. "Everybody in the lobby of the Belmont tried to talk at once," said the New York Herald the next morning, "and the photographers were breaking down the palm trees as they endeavored to gain a point of vantage from which to take their pictures."

Twelve hundred letters were waiting for Ford when he arrived. In Forty-second Street on the north side of the hotel the street was jammed with an eager crowd. "The situation has a serious side," the Herald added. "It is making heavy demands on the hotel employees, who have been besieged with inquiries in regard to the Ford party. The telephones to the apartment on the fifth floor were disconnected yesterday and an extra squad of house detectives was on hand."

Plainly a news story had come to life and was walking the streets in flesh and blood. And while the New York papers continued to regale their readers with the high spots of Ford's visit—the talks he had, and the clothes he wore, and his conversation with the barber, and his invitation to go walking with Carnegie, and the discovery of the Sun that "he submitted to an interview as if it were a pleasure," and the astonishment of the Times that "there was nothing about his demeanor to indicate that he thought he had done anything remarkable"—the debate over the new wage plan kept Ford in the centre of the nation's eye.

It was a good plan, a bad plan, a plan that would rob the workman of his initiative by paying him too much all at once, a plan that never could be carried out. "Mr. Ford himself will

surely find that he cannot afford to pay this wage," the president of the Pittsburgh Plate Glass Company predicted. The advertising manager of the Winton Motor Company felt certain that the plan was "wrong economically"; the president of the Chalmers Company declared that "it ought to tickle the Socialists nearly to death"; and a mass meeting of five hundred socialists in Detroit denounced it as an abominable trap: "By a raise in pay of a few dollars a week Ford has purchased the brains, life and soul of his men."

The whole nation read this news; the whole nation argued its importance. For two weeks a vast public which had been debating Villa's rout of the Federalists in Mexico, Mrs. Pankhurst's visit to the United States, the marriage of the President's daughter, and the New York, New Haven & Hartford's suspension of dividends for the first time in forty years, dropped all these things for the discussion of a man whose name it had never seen in print, until this furore started, except on the radiator of a five-hundred-and-fifty-dollar motor car.

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Ford went west, after three days in New York at the height of the excitement, and the news

machine went along with him. That was inevitable now. Having once dissociated himself from the mass of his fellow countrymen, having once been tagged unmistakably for future identification and then been skyrocketed across a journalistic sky, Ford ceased to be a private citizen and by the canons of the news machine became a source of copy. He was no longer a Detroit manufacturer who came to New York occasionally. He was headlines. And into Detroit in the next few weeks came a trainload of staff correspondents, star reporters, magazine writers and experts on human interest: emissaries of editors who had agreed to hold space open for the close-ups and the latest details.

For there was too much interest now for the public to be satisfied with Ford in a hotel suite, done in columns of pale words against a backdrop of gilt chairs and potted palms. The man had to be seen on his own stamping ground and pictured in his own world of high wages and triumphant engines. He had to be caught by the photographers at his own desk in his own office, giving orders to his plant over his own telephones with his own books on a rack behind him. He had to be caught up to his ears in this cyclonic industry which made it possible for him to do things that nobody could do without becoming

front-page news. He had to be caught at work and at play, caught on the steps of his suddenly discovered plant, caught on the porch of his hitherto unheard-of house, caught at the wheel of the first Ford, caught at the wheel of the last Ford, caught shaking hands with an old neighbour on his farm, and caught in a moment of leisure playing with his dogs; and if he had no dogs the photographers were ready to supply them. For the great news machine was in full motion now, and the presses panted for more copy.

So the stage was set, the curtain raised, and the news machine wheeled into action.

Ford, the public now discovered, employed fourteen thousand men at Highland Park. He was a friend of Edison. He had no use for Wall Street. He was opposed to labour unions. His company had made twenty million dollars in the last twelve months, but he didn't want a butler. He disliked dictating letters. He thought wood was out of date. He didn't believe in business fluctuations. He liked holding conferences out of doors and under trees. He thought railway cars were too heavy for the work they did. He kept a close watch on his diet. He carried his figures to four decimals. He thought farmers wasted

time and effort. He had once made a point of using the back door of his house for a week in order not to disturb a nest of phœbes on the porch in front. He never smoked. He was as willing to employ a likely looking convict as a likely looking college man. He thought alcohol was the fuel of the future. He had no patience with professional charity. He liked skating. He raised pheasants on his farm and fed them custard. He had made his wage increase neither because he believed it good business nor good advertising but because he regarded it as "a plain act of social justice."

No man on the American scene in January, 1914, so thoroughly dominated the news as this man who had been unknown a year before and then discovered overnight by grace of a happy accident. Any opinion that could be charmed out of Ford by a resourceful press which stayed awake nights thinking up new questions was promptly telegraphed around the country. Within a short time after the first wage story broke, Ford had been asked to take a stand on prison reform, the tobacco habit, the gold standard, foreign trade, capital punishment, General Carranza, the single tax, the causes of war, and the theory of evolution.

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It was a tireless pursuit but an inevitable one. For on January 5, 1914, Henry Ford ceased to be a man working quietly and obscurely for the standardization of a motor car and became a national institution. Henceforth it was to matter to the public what he thought and what he said and whether he was willing to be quoted. Henceforth it was to matter what experiments he had in hand and what theories drove him on to the achievement of his purpose. Henceforth he himself was to be one of the family of legendary figures who stalk recurrently through the news, and his factory something to be seen by every visitor to Detroit, a national landmark and a new Niagara Falls.

Crowds of tourists from the Ohio Valley came to Detroit to see this shop that could afford to pay five dollars a day to its humblest sweeper. Crowds of tourists from the corn belt snapped one another's pictures against a background of piston heads and mud-guard brackets manufactured here in the home of mass production. The day came shortly when in the interest of keeping the floor space free of visitors, official guides were installed in the plant at Highland Park.

History had turned a page. Henry Ford was no longer a man who had merely begun to remake the manners and the interests and the mental habits of the nation by giving it a cheap motor car. On February 5, 1914, one month to a day from the date of his wage announcement, a mass meeting of Bull Moose in Calhoun County, Michigan, endorsed him as a candidate for Governor.



CHAPTER VII

TIN LIZZIE ON OLYMPUS

A MILLION Fords had come down the assembly line by midsummer, 1915. There was magic in this venture. And in this magic the Ford joke may have had its origin. For the early feats of the Ford company were so prodigious for their times—eight hundred motor cars a day in the year Ford made his famous wage announcement—that in themselves they seemed a bit preposterous and invited exaggeration. It was a wholly logical story, for example, that described the bad luck which overtook the workman who put Part No. 453 in all of the Ford cars as they came catapulting down the line at Highland Park. This man dropped his monkey wrench one day, and lost his job because he was sixteen cars behind by the time he picked it up.

Even some of the remote by-products of this Ford experiment were extraordinary enough to teeter on the border line which separates plain fact from fancy. Under the heading, "What

Are We Coming To?" the Automobile Trade Journal reported, with astonishment, about this time: "A recent trip through a five-and-ten-cent store in Philadelphia has brought to light the fact that one counter is devoted exclusively to the sale of parts for Ford cars at ten cents each. Here are displayed such articles as bow sockets, piston rings, grease cups and a dozen other parts for Model T." Out of Ford parts for sale in Woolworth's could come anecdotes with endless variations.

Possibly it was in sober truth, possibly in something wholly remote from sober truth, that the Ford joke had its origin. But whatever its origin there is no doubt about its popularity. In the years that have passed since the last Ford joke died somewhere in a muffled whisper we have witnessed nothing else like the vogue of these endless stories of the Ford motor car that first began to be told about the time that Ford himself became a celebrity with his five-dollar wage and reached the crest of their popularity a few years later. Ford jokes were as much a part of the conversation of the American people in these years as their shop talk, their gossip of sports, or their interest in the weather. Ford stories were told by boys in school and by old men in their rocking chairs, by vaudeville

teams on the two-a-day and by bankers at their luncheons, by switchmen on the Santa Fé and night watchmen in the Bowery.

There was a universal pattern here, and it was equally good with a glass of beer in a corner saloon or a cup of tea at a church social. Stories that rocked the rafters of a Kansas farmhouse on a night in February showed up in Illinois in March, crossed the hills into Tennessee in April, picked up a new twist in North Carolina at the end of spring, and came back home again in May; only to start out in early June on a round of lawyers' clubs and insurance men's conventions, bringing good cheer to six-course dinners as they helped toastmasters wing their way through a few introductory remarks—until, gray with age, they had been told at last one time too often and came to their final resting place between the pasteboard covers of New Joke Books sold with chocolate almond bars and crackerjack in the aisles of railway trains.

There have been many bits of slang and many colloquialisms that have had the run of the United States. There have been many stories off colour and on colour popular enough to be found trekking their way across the country both from east to west and from west to east at the same moment. But clearly this was differ-

ent. Here was something more than a bit of slang or a new colloquialism or a single story that had managed to catch on; here was an epic of a thousand stories, told on the same text, told at the same time, told as they turned up spontaneously from nowhere and echoed back and forth across the nation.

For sustained interest in a single theme and countless variations on that theme the Ford joke has a place of its own in the annals of street-corner humour.

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Rummage among the lavender and old lace in the attic of another decade, and it seems clear enough now that there was a pattern about the Ford joke which helps explain its popularity. For the Ford joke had a pattern. And if we discard the mother-in-law jokes and the newly-wed jokes and the lodge-night jokes and the travelling-salesman jokes which were not Ford jokes at heart but time-honoured barbershop jokes imported into a Ford background when the craze for Ford stories was at its height, it is possible to trace this pattern and see how it was made.

There was the farmer in Tuscarawas County who tore the roof off his barn one day. His neighbour happened by and asked him what he intended to do with the old tin lying on the

ground. He said he didn't know. The neighbour suggested that he send it to the Ford Motor Company in Detroit, since the Ford company was always in the market for old metal. The farmer followed this suggestion. Two weeks later he received a courteous reply from the Ford company. "Your car," it said, "is one of the worst wrecks we have seen, but we'll have it fixed for you within a week."

There was the junk dealer who sold bed springs. A Ford car broke down in front of his shop one afternoon, with trouble in its transmission system. The owner of the car came in, looked over the junk dealer's wares, and picked out something from the stock. Inside of an hour he had succeeded in putting four feet of bed spring into his transmission case and was on the road again, with his car in as good shape as ever. Another Ford came along and duplicated this performance. A week later the junk dealer put in a fresh stock of old bed springs and hung up a new sign over his shop, "Ford Parts and Accessories."

There was the man of an inventive turn of mind who grew tired of having nuts and bolts drop off his Ford while it was travelling along the road and mounted a horseshoe magnet over the rear axle, strong enough to pick up nuts

and bolts as fast as they shook loose. There was his friend across the street who substituted for the magnet plan a pool-table arrangement by means of which loose parts ran down an alley underneath the car and were collected in a wicker basket.

Sometimes it was the Ford factory itself that was the locus of the story. It was frequently reported, on authority described as unimpeachable, that the Ford company had a surprise in store for purchasers of its cars, consisting of a new model made without doors but equipped with a can opener, so that each owner could cut doors where he wanted them. It was also reported that in order to avoid fire risks the company had decided to ship its cars in crates of sheet asbestos, since each car came from the assembly line so fast that the metal was still smoking. And there was at least one occasion when the country heard that the Ford company had determined to paint its automobiles yellow instead of black, so that Ford cars could be hung outside of grocery stores and sold in bunches like bananas.

Somewhere along the Atlantic seaboard lived a man who had bought a fifteen-thousand-dollar limousine in France, but who carried a Ford

car in his tool box to pull him out of mud holes when he got in trouble.

Somewhere in California lived a man who had invented a way to gauge the speed of his Ford on the open road by a simple test: at fifteen miles an hour the windshield rattled, at twenty miles an hour the fenders rattled, at twenty-five miles an hour his own teeth rattled, and at thirty miles an hour the vibration shook his fillings out.

And both along the Atlantic coast and in California, in Missouri, Nebraska, New Hampshire, and Vermont, lived the thrifty old lady who saved her tomato cans. One day, when a quantity of them had accumulated, she sent them to Detroit. Whereupon she received a letter saying: "DEAR MADAM—Your shipment of the 30th has been received. We are making up to-day and will ship to you to-morrow one Ford Model T. We are also returning eight cans which were left over."

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Sometimes it was a shipment of tomato cans that capped the climax of a Ford story. Sometimes it was the blades of a lawn-mower made over into a roller bearing for a worn-out axle or an alarm clock converted into a self-starter guaranteed to start a Ford by the mere vibra-

tion of its hammer. But whatever the story, and in whatever corner of the country it was cast, there was usually this about it: some astonishing display of ingenuity, some amazing exploit in production, or some prodigious feat in speed had been accomplished in heroic manner, and the troubadours went out into the streets to tell the story.

Nor is it surprising that they found ready listeners. For the business of filling the streets with motor cars was in full swing by this time, and the whole country was willing to talk automobiles.

Two cars to every thousand families had been the nation's quota back in 1903, when the Ford company was founded; nine cars to every thousand families in 1908, when Ford built Model T; by midsummer 1914, when the Ford joke was born, the nine had jumped to ninety-seven. One family in every ten now owned a motor car. One family in every ten now knew the joys of a wide-open road, a new bit of countryside, and a new record set for miles per gallon. For the shoe salesman and the drug-store clerk and the bank teller and the farmer a gas engine was no longer something remote and other-worldly. It was the power unit of a piece of personal property that lived in a shed behind the house and possessed heroic qualities.

Feed this piece of property fuel, oil, and water and with a spin of its crank it was off for a run of two hundred and thirty miles on Sunday. Give it a little Free Air for its tires and it would mill its way through heavy snow or bounce uncomplainingly over a gravel road with pebbles the size of robin's eggs for hours. Send it off to a half-decent start on an average hill and it would mount to the crest no matter how many passengers were festooned aboard it, without a trace of a pound in its heart of iron. If it barked now and then in the performance of its duties, ran a pulse, and stubbornly refused to let itself be hurried, pull a small knob on the dash and by some mysterious process it acquired a new lease of life through an alteration of "the mixture."

For a nation that had just begun to buy half a million automobiles every year but was still not thoroughly enough at home with them to take their feats for granted, there was something astonishing about the motor car. There was something astonishing about the new order of things of which the motor car was either a cause or an effective symbol: the bustle and hurry of modern life, the new triumph over distance, the rush to work and the rush to play, the hot pace of successive interests.

Of all these things the average man may have

thought much or little, but they were implicit in the modern scene. For the first time motive power had been domesticated on a mammoth scale and a private power plant had been brought into average homes. For the first time average people had been brought into direct contact with applied mechanics and a world of engines. For the first time the average man, at the wheel of a four-cylinder motor car which had cost him thirty-five cents a pound, had impressive proof that he was living in a new industrial era in which miracles could be worked by mass production.

The farmer in Tuscarawas County had sent his tin roof to Detroit, had he? And they had shipped it back to him remade into a motor car?

Well, why not? Give one of these modern engineers a large enough piece of tin and a few weeks to work on it, and almost anything might happen.

§

It was the essence of the Ford joke, slapdash and happy-go-lucky though it may have been, that it chronicled the new faith in a power-driven industry which had swept across America. The Ford joke had one mission. That mission was to win a laugh. But as a rule it won its laugh by appealing to the ability of the average man

to recognize the landmarks of the new America in which he lived.

There was the old lady who sent her tomato cans to Detroit and received a Ford car in return. No doubt this result had startled her. No doubt it was more than she had dared expect. But in the matter of foretelling what modern industry could do, who would have expected anything like the staggering feats of mass production: the five hundred thousand motor cars a year, and the thirty million tons of steel a year, and the half billion dollars' worth of electrical goods a year that now poured out of the busy modern factories whose exploits filled the daily papers?

There was the junk man who discovered that the coils of a discarded bed spring were interchangeable with the cogs in the transmission system of a Ford. No doubt they may have looked a little strange. Certainly a more orthodox transmission system could have been manufactured in a factory. But after all it was the boast of modern industry that it had standardized the art of mass production so successfully that machine-made parts were interchangeable, and the junk man with his bed spring simply carried the theory of interchangeability to its logical conclusion.

Nor was there anything illogical in the idea of

a motor car that would come equipped with a can opener so that its owner might cut doors to suit his fancy, or a motor car so resilient and so successfully endowed with life that it could shed loose parts along the road and still continue on its journey without stopping. Ideas of this sort simply paid tribute to the ingenuity and skill of a successful modern industry which had already achieved results that no one could conceivably have expected it to achieve, and would doubtless achieve still others, even more remarkable.

As for cars painted yellow so that they could be sold in bunches like bananas: it was the supreme achievement of all these amazing and bewildering processes of modern industry that they had begun to popularize the luxuries of life so that all men might enjoy them, and the Ford joke simply cast this revolutionary idea in an idiom of its own.

What the Ford joke did, in fact, was to keep pace with the average man's enthusiasm for the surprising modern world in which he lived. Whether the average man was aware of this there is no way of telling. Certainly it did not bother him when he hailed his neighbour in the corner store, chuckled in anticipation of the climax of his own story, and began, "Bert, I'll bet you haven't heard the one about the two

ministers who started out in a Ford roadster. . . ." It made small difference, after all, provided he kept going. Nine times in ten the story he was about to tell pricked up his pride in the astonishing feats of mass production, boasted his joy in the conquest of the open road, paid his respects to the ingenuity of the new masters of applied science, or expressed his faith in the ability of machine processes to democratize expensive products hitherto intended only for the rich by producing them at a low cost and in vast quantity for the man of average means.

If the Ford joke had the run of the country, if it appeared and reappeared with a thousand variations, if it came finally to be established as a national institution, it was because in due course of time the Ford joke had become the authentic folklore of an age of motors.

Those chronicles of contemporary civilization which describe America as having been born too late to create for itself a mythology of gods and heroes forget that for a few years this country romanced about its new industrialism with the same swaggering gusto that has always given the world its legends.

Here, in this loose-jointed little car that bounced along the open road at a pace so headlong that it shook the fillings from its driver's

teeth, was a symbol of speed in a motor age as authentic as the young god Mercury for travelers on the roads that led to Rome.

Here, in the machine processes which could fabricate a motor car in such a rush that its smoking metal needed to be boxed and shipped in an asbestos crate, was mass production such as Vulcan at his forge had never even dreamed of. Here, in a stream of cars shot from a moving belt at a pace so swift that no workman could afford to drop out long enough to pick a lost wrench from the floor, was a miracle as astonishing as Minerva sprung full-panoplied from the head of Jupiter.

The Ford joke was the first and last street-corner saga of an age of gasoline, and it made the most of its brief triumph.

Jove himself, in all his legendary exploits, never performed a feat much more remarkable than producing a Ford coupé by hurling a bolt of thunder at a piece of tin.

§

To the best of things there comes an end. No more than the Roman gods could the Ford joke last forever. Little by little the bloom left its cheek and custom staled its infinite variety. The day came finally when its charm was gone.

when it could no longer win a laugh, and when even in the remote fastnesses of the hill country people fled it as they fled cholera.

The Ford joke went its way, and with it went the awe with which men viewed their early motors. A good many years have passed since the automobile was an innovation. A good many years have passed since it was capable of exciting wonder. Its speed is commonplace. Its reliability we take for granted. There is nothing in its fidelity to take our breath away and no inducement to make up tales about it.

Year by year, as the motor age wore on, a change took place in the way men viewed these modern beasts of burden. It is significant of the change that within three years of the time when the Ford Joke Book was being hawked in the aisles of every railway train a new Ford book had achieved a still more amazing vogue, under the title of Ford Manual. Here were no fabulous accounts of tomato cans galvanized into action or gears patched with a stray bit of wire, but diagrams with neat arrows pointing to Fan Bracket Bolts and Magneto Coil Supports, simple rules for removing the carbon from combustion chambers, and shrewd hints for discovering which one of five familiar factors was most likely at the moment to make the engine pound.

The Ford car had served as the butt of a national joke because it was the commonest car and the cheapest car on wheels. For the same reason it was the Ford car, a little later, that gave the country its first home-study course in popular mechanics.

Men were ceasing to wonder at their motor cars and beginning to understand them.

§

It is a bad day for legends when knowledge begins to intrude on mystery. It is hard sledding for a miracle when its causes can be looked up in a Manual.

The Ford joke is gone, and the street-corner sagas have departed with it. The fog has rolled away, in the valley below Olympus. The peak is bare. The gods have vanished. And the mythology of the motor age is wrapped in moth balls.



CHAPTER VIII

THE HISTORIC HOUSE PARTY

TUGS churned in the dark harbour of New York. Over the saloon gangplank of a Danish steamer backing warily out into midstream fluttered a martial poster done in brilliant colours. Sirens shrieked. The tugs let go. And on an afternoon in December, 1915, a lean, energetic man of fifty-two, whose factory had made three quarters of a million Model T's in seven years, set sail for Europe on a new journey of adventure.

Nothing in the mythology of the Ford joke outranked the high hopes with which this journey started. Nothing in the folklore of a new motor age outmatched its spontaneous optimism or its superb faith in the ability of conscientious effort to work wonders. For the goal of this adventure was an attempt to bring peace into a world at war, and the slogan with which it was christened still echoes in a day when the first feats of mass production in the Ford factory have been forgotten. That slogan had the lilt

of a battle cry: "Out of the trenches by Christmas."

§

The Ford peace ship has receded far enough into history now to be shrouded in a gentle mist, but it is still possible to recall the astonishment which greeted the announcement of this venture. To the man in the street it seemed as if Ford had suddenly lost contact with reality. Up to this time he had been a successful manufacturer who had let nothing distract him from the business of making automobiles. Now, out of a clear sky, it had apparently occurred to him that the time had come to take a hand in the politics of Europe. And on the spur of the moment, the next morning, he had telegraphed New York, chartered a ship, arranged for passports, and invited four fifths of the professional cranks in the United States to sail with him into the unknown on a midwinter's lark.

Such was the popular impression of the peace ship at the time, and in the press reports that flooded the newspapers for two busy weeks, forecasting its hopes and announcing its plans, there was much to confirm this first impression. The project seemed to have no head or tail, no plan of action save a devout wish for peace and a great willingness to do something in a hurry.

With his back to a mantelpiece in the Hotel Biltmore in New York on the day before Thanksgiving Day Ford faced the reporters and told his story.

He had chartered the *Oscar II* of the Scandinavian-American line, he announced, "and some of us are going to Europe." The ship would sail on December 4th. There would sail aboard her a company of Americans determined to do their best to put an end to the war. "It is my earnest hope to create machinery to which those who so desire can turn to inquire what can be done to establish peace." The war was in its second year. It was wasting life and treasure. "The time has come to say, 'Cease firing.'" Common sense demanded peace.

It was a bold idea, this proposal to invoke amateur diplomacy as a means of settling a war which had engulfed ten European nations, and as the time drew near for the *Oscar II* to sail on her appointed mission every turn of events gave this adventure a more bewildering and unorthodox appearance.

The confusion of purposes which seemed to be an integral part of the plan was emphasized by the flood of contradictory statements of its purposes published on the same day and apparently issuing from the same sources.

The natural doubt in the public's mind as to what manner of reception this impromptu cavalcade would receive abroad, from governments that had been at war for sixteen months, was heightened by the chilling silence with which these governments viewed the hurried arrangements for its embarkation. The cheery prophecies from Ford headquarters that had accompanied the first dispatch of telegrams of invitation to Governors of every state petered away gradually, until only one acceptance by a Governor remained: that of the Governor of North Dakota, who seemed in some doubt as to why fate had chosen him to sail, since most of his colleagues were pacifists and he confessed himself at heart an earnest advocate of military preparedness.

Even the minor incidents at the tag end of the two hurried weeks of preparation were unhappy and ill-fated. There were sensational reports that Ford, who had never had a strike in his own factory, now proposed to call a strike in the trenches—"a general strike on Christmas Day, that is what we want"—and there were warm denials of these reports and telegraphic assurances to foreign governments that the Ford mission had no such intention.

There was the cablegram sent in too great a

hurry to Pope Benedict VII before it was discovered that Pope Benedict VII had been dead since the year 983; an unimportant slip, but one promptly seized upon as illustrating the slapdash haste of the whole procedure.

There were the inevitable applicants for cabin space who managed to persuade the public that this was a carnival for private hobbies by capturing the headlines for their own pet theories: the lady who wished to join the party because she had inherited a valuable formula for restoring health and the engaged couple who wanted to be married somewhere at sea and the president of the Anti-Smokers' League who thought his theories ought to have a hearing. Gangway to the *Oscar II* was crowded with a motley company of willing passengers. Even Mutt and Jeff, when the peace ship sailed, went aboard it in the syndicated cartoon strips.

It is small wonder, considering the spectacular suddenness with which this new crusade had been announced, its sharp break with everything for which Ford had seemed to stand, the apparent lack of anything to justify the high hopes which its leaders entertained, and the flood of ridicule poured upon the whole adventure by no end of merry critics, that the public which read the story day by day found its clue to this ambi-

tious effort in the headlines: accepting it good-humouredly as something grotesque, Gargantuan, and impossible, a new and glorified Ford story in which Tin Lizzie tackled Mars.

§

No doubt it was a strange adventure. No doubt the amazement it aroused in Europe was inevitable and the scepticism of the press was justified. Yet despite the ridicule which it received, the frantic haste with which it sailed, and the completeness of its failure, the peace ship touched reality in at least two places. It capped the climax of a real interest on Ford's part and it compressed into a compact story one of the familiar epics of his country.

It is clear enough now, as far as Ford's own interests are concerned, that the peace ship was not the beginning of an idea but something planned at the time as a logical step in its progression. Ford's interest in peace did not begin suddenly at midnight on the day before he chartered a ship to sail for Europe. For the better part of a year, though the fact was forgotten in the excitement of this new adventure, Ford had been campaigning in behalf of peace. The war was only a few months old when the headlines reported his belief that war was "murderous and

wasteful," and from this time forward a steady stream of interviews and statements issued from Detroit, denouncing war "for its uselessness and the barriers it raises against progress," assailing it as a product of sheer mismanagement and insisting that the European nations would never have stumbled into it if they "had spent upon promoting peace one one-thousandth part of the money which they have spent on military preparedness."

Nor was this point of view illogical for a man with Ford's interests and Ford's background. From the time he had first come to Detroit and kept his neighbours awake with the sputtering and the hammering in his workshop, Ford's dominant interest had been in the manufacture of something useful, something marketable at a low cost, in vast quantity, and with a minimum waste of effort. War tipped over all of these ideas. It produced nothing that was useful. Its cost came high. Its waste was extravagant and notorious. For a man with Ford's interest in production and in the orderly arrangement of the tools of production it was logical enough to lack patience with anything as disorderly as war and as unproductive as preparedness. And being Ford it was inevitable that the country should discover what he thought. For Ford was news,

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the press was on his heels, and the day had vanished when his personal opinions were assumed to be his private business.

So willingly did Ford take advantage of his opportunities to speak his mind and so vigorously had he campaigned for peace in the first year of the war that by October, 1915, a number of British newspapers were refusing advertisements of his motor car and in Detroit he had lost his own chief partner: James Couzens resigning as vice president of the Ford company on the ground that he "could not agree with Mr. Ford's public utterances on peace and preparedness" and had "finally decided that he would not be carried along on that kind of a kite."

It was about this time that Ford's path was crossed by one of the many groups of ardent pacifists constantly evolving programmes for the settlement of the war, and the plan behind the peace ship was brought to his attention.

§

For the peace ship had a plan, and at least in its experimental stages differed from those popular impressions of it at the time which pictured it as sailing at the drop of the hat for

nowhere in particular without any notion of what its passengers were to do when they arrived.

Theoretically the peace ship itself was the least important part of the whole programme, a gesture of goodwill which would call attention to the project back of it. This project was an effort to open a channel of communications between two sets of enemies. The theory was that the war had settled down into a groove, that the bitterness which it aroused had shut off the chief powers from a direct exchange of their peace terms, but that an indirect exchange of views might in due time take place through a neutral agency—"a conference for continuous mediation"—if such an agency were established. At any rate, so the theory ran, there could be no harm in creating such an agency on the chance that it might be of use.

This was the plan behind the peace ship; there was nothing about it sensational enough to promise an immediate armistice; and on the theory that the war might end in a negotiated peace, with the neutral nations active in the settlement, the proposal for "continuous mediation" by a neutral agency proceeded logically from the premise on which the plan was founded.

"Continuous mediation," however, was one

thing; "out of the trenches by Christmas" was another.

It was the fate of this crusade that the peace ship, a mere incidental to the plan, ran away with the whole idea.

§

For the peace ship was action, drama, colour, something as concrete as a motor car and as vivid as a dash across the country toward a promised goal, and the proposal for "continuous mediation" was mere theory, dim, remote, and over-logical. Give any newspaper editor his choice between a distant plan for a neutral agency and an immediate boatload of determined pilgrims sailing out into a submarine-infested sea in a bold effort to put an end to a war in Europe, and there is no doubt which half of the news would dominate the story. It was not the idea of an unofficial conference that leaped from the headlines when the peace plan was announced, but "FORD CHARTERS ARK, PLANS RAID ON TRENCHES, Peace Army to Sail for Europe with Auto King as Grand Commander."

It was on these ideas that the press spread its headline type, and it was in these terms that the public thought of the Ford peace mission. It was in these terms that the Ford peace mis-

sion came gradually to state its own objectives. For faith is a persuasive quality. And as the time drew near for the departure of this pilgrimage and the peace party swept along on the high tide of its own enthusiasm, what had at first been merely a belief that "a movement for peace ought to be started by Christmas" became an eager faith that Christmas might see an end of the fighting in the trenches. The dim idea of "continuous mediation" receded quietly into the background, and the hope of immediate action had the centre of the stage. "We are taking out of this port a ship armed with the greatest weapon of modern times—the wireless. . . . We are going to use that weapon from the time we clear this port until we land in Europe. . . . The two notes that will be sounded are faith and moral suasion."

Faith and moral suasion, with faith pitched so high that it could hope for peace by Christmas: this was the credo of the peace ship as it left New York, and no doubt it sailed to snare the moon.

§

Yet even in its failure the peace ship did not sail alone, nor did its high hopes go to their last resting place over a path that had never before been travelled in the history of a crusade. For

it was the essence of this adventure that faith had overreached itself, and this was not the first time something of the sort had happened in America.

Time after time, in these same years, Americans were setting out upon crusades that either carried too much sail or lost their bearings in midocean. The goals of these crusades may have been less glamorous than the goal of the Ford mission; the circumstances in which they embarked may have been more humdrum and the drama of the peace ship have been lacking; nevertheless, in the suddenness of their conception and their complete reliance upon "faith and moral suasion" they had told essentially the same story.

There was the great American crusade against Big Business which had reached its climax only a few years before this time. With all the enthusiasm of Ford chartering a ten-thousand-ton ship for an overnight crusade to Europe the American people had discovered the existence of gigantic trusts and thrown themselves into the battle to destroy these things forever. Mass meetings were held, trust-busters donned their armour, and the air rang with slogans as high-hearted and as hopeful of immediate achievement as the slogan of the Ford peace ship. In the

end a law was passed. It declared (not for the first time) that since trusts and monopolies were obnoxious to the public, an end to them was formally decreed by act of Congress. Whereupon the American people rested from their labours; and the trusts, having changed their codes to take care of the law, grew more numerous and more formidable than ever.

There was the crusade, waged hammer and tongs in these same years, to restore to the American people the full measure of self-government provided for their benefit by the fathers of the Constitution. Interlopers had intervened between the people and their government. Political power had escaped from the hands of the electorate into the hands of party bosses, corporation counsels, and professional insiders. To recapture authority for the average citizen a new deal was needed. More mass meetings were held, petitions circulated, planks written into party platforms, and demands made for a new system which would enable average people to initiate their own laws and pass upon the work of their own legislative bodies. And from the agitation came a new crusade as earnest as the peace crusade, with its battle cry the "Initiative, Referendum, and Recall." New laws were written on the statute books with a high hope that

government would change, and government went along very much as ever.

Meantime, an alarming drift of people from the farms had posed a problem no less menacing than the breakdown of self-government. Year by year the census showed a smaller company of tillers of the soil. Plainly this was a situation threatening the best interests of the nation. Meetings were held, societies were organized to promote the repopulation of the farms, editors assured the wheat grower that he was the backbone of the nation, brochures picturing the rewards of farm life were distributed by patriotic Congressmen, and a new slogan, as famous in its day as the Ford peace slogan, made its appearance overnight. "Back to the land" was the message it carried to the people of the nation; a new crusade began; and by 1920 the percentage of farm population had dropped another five points, from fifty-four to forty-nine.

And while the farms lost ground the sprawling factory cities which were robbing the countryside of workers developed new problems of their own. For the pace of urban life had now acquired a speed which was by no means reassuring. People timed their lives to suburban trains or the punch of a time clock in a factory; rapid transit was the symbol of an age of hurry; men were too

busy chasing dollars to have time to spend them wisely; home life, said the pulpits, showed signs of disintegrating; discipline was lax; divorces were increasing; amusements were growing wilder every year; women's clubs denounced the tango; people were racing aimlessly across the country in automobiles for which they had mortgaged their future earnings, and a thousand new diversions and excitements had destroyed the old-time poise of a nation that had time to think.

It was one of the abiding faiths of the American public that something could be done about all this by sufficient emphasis upon another slogan coined in the interest of reform, "Back to the Simple Life," and one of the most conspicuous tendencies of the times that modern life was steadily growing less simple and more complex, more restless, and more frantic.

§

What was happening in these years was the discovery by Americans of a series of new situations which were by-products of their advancing civilization.

For more than a generation, since steel, oil, and modern transportation had given them the instruments for a new conquest of their fron-

tiers, the American people had been building up their country with cyclonic speed, spanning its river valleys with trunk railways, dotting its plains with factory towns, and turning its prairies into farm lands. Inevitably, in due course of time, the nation had been overtaken by certain problems inherent in the swift processes that had built it over.

The same triumphant industrialism which had given the country new comforts and conveniences had made trusts and monopolies a logical development in an age of mass production. The same ease of communication between distant sections that had destroyed the old frontiers took government out of the hands of neighbourhoods and made it distant and impersonal. The same factory processes that had filled a farming nation with steel mills and machine shops had inevitably tipped the scales in favour of an industrial city life, sacked the farms, and set the pace of city life itself at a distracting speed.

A new host of problems faced the country. It would have been possible to tackle these problems cautiously, to have arrived at a realistic understanding of their relationship to one another and to the changing background in America before demanding that something be done about them in a hurry. It would have been

possible to plan action more likely to attain results than a frantic cry of "Back to the Land" or "Bust the Trusts"—through a far-sighted programme extending over a period of years. Such a programme, however, was not only difficult to create; a method so painstaking tried the patience of a buoyantly enthusiastic country which was forever hurrying from one new programme, one new conquest, and one new problem to another. The American nation could no more wait for the slow development of a plan requiring years of careful study than the Ford peace ship could wait for its dim theory of "continuous mediation" to become a reality. It had to have prompt action.

Time and again, in these same years, the experience of the peace ship had been duplicated in America. Some situation needing correction would suddenly be discovered. A demand for action would appear. Organizations would be created, resolutions introduced, and public opinion mobilized. Someone would hit upon a happy slogan. The crusade would start. And whether it was a matter of ridding the world of war or ridding America of trusts or ridding politics of bosses, America would sally forth to battle: without time to think its programme through to a logical conclusion, but armed to the teeth

with "faith and moral suasion" and once more ready to show its confidence in the eradication of evil merely by a spontaneous recognition of its existence.

The peace ship did not sail alone. Nor was this the first time that the air had rung with a slogan as bold as "Out of the trenches by Christmas."

§

Two bands blared back and forth at each other on a pier in New York on an afternoon in early winter. Smoke hung low over a crowded harbour. Banners floated in the breeze. Photographers clambered over the tin roofs of the warehouses on the wharf to snap pictures of the peace ship as they had clambered over the potted palms in the Hotel Belmont to snap pictures of its leader a little more than a year and a half before. There was tension in the air. A new crusade was about to start. Three thousand people had gathered on the pier to see the christening.

From the top deck of the *Oscar II* an unidentified enthusiast in a heavy ulster took charge of the ceremonies, shouted down to the bands for an encore of "I Didn't Raise My Boy to Be a Soldier," and called for cheers for each celebrity who ascended the gangplank either to enlist in this adventure or to pay his respects to those in

charge and then depart. "Get together, all you friends of peace." . . . "Three cheers for William Jennings Bryan, who wants us to stop war." . . . "Three cheers for Henry Ford, now all together, hip, hip, hip." . . . "Here's the fellow who makes the light for you to see by. Three cheers for Thomas Alva Edison, ladies and gentlemen, three cheers for Thomas Alva Edison."

Hull glistening in the low winter sun, flags fluttering as they caught the breeze, the *Oscar II* cast off at 3:15 and backed slowly from her pier. The bands boomed a last Godspeed, and the cheers of the excited crowd followed her out into midstream.

One last look she had at the crowded pier before she slipped away toward Ambrose Light and peace by Christmas, carrying aboard her three tourist conductors, a Western Union stowaway, a party of enthusiastic pilgrims, a dim peace plan thrust into the background by a new programme of immediate achievement, and another demonstration of America's abiding faith in slogans.



CHAPTER IX

THE MAD HATTERS

IT IS customary to write *Finis* over the peace adventure on the January morning when Henry Ford returned to the United States alone and empty-handed, having been gone a month, spent twenty-four days at sea, six days ashore, and sailed from Europe on the eve of the same Christmas Day when the boys were to leave the trenches.

As a matter of fact Ford's direct efforts in behalf of peace and against preparedness did not end with his return from Europe but continued for some time with unabated interest. The neutral conference which the peace pilgrimage established remained in Europe during 1916, with Ford backing its efforts to perform a task which the public had now lost sight of altogether. Ford himself, on his return to the United States, launched into a series of full-page "peace advertisements" in two hundred and fifty newspapers, so savage in their attack on everything associated with war or with preparedness, from

battleship programmes to moving pictures portraying the defenselessness of the United States, that they promptly involved him in a million dollars' worth of libel suits filed by the Navy League and the Vitagraph Company of America.

Nevertheless, times change, and men adapt themselves to new conditions. On February 5, 1917, one year to a day from the time Ford had announced his last newspaper campaign against preparedness, a dispatch from Washington reported him in the capital discussing the practical aspects of preparedness with the Secretary of the Navy and offering to place his plant at the disposal of the government in case it should be needed.

This time, when the reporters interviewed him, the conversation did not turn to peace but to Ford's idea of a one-man submarine. "It was late in the day, after many continuous business hours, when Mr. Ford talked to a Times reporter at the Hotel Belmont, and he was noticeably tired. But when he began to discuss submarines his face brightened. . . . 'My idea of a submarine is a pill on a pole,' he said. 'That is, a pole on the front end of the submarine with a pill—~~bomb~~—on the end of it. The submarine—a small one, carrying one man—goes right up to the ship and sticks the pill against the hull. The

submarine then goes off. That would settle that ship. And it can be done—what's to prevent it? It's like mosquitoes. I can make a thousand a day myself.'"

Two months later submarines had the upper hand of peace, and America went to war.

§

It was a soul-stirring experience for a nation that had thought itself remote from Europe suddenly to find itself in the centre of this conflict. It was a breath-taking experience to keep pace with the inevitable change in values and in emphasis. Ford discovering one-man submarines presented a no more sudden break with his own interests of the immediate past than all America suddenly discovering itself at war, readjusting itself to a new psychology, enlisting its man power for a crusade in France, substituting "force without stint" for "peace without victory," revaluating the objectives of the war, demanding the expulsion of the Turk from Europe, and mastering the geography of those new nations which suddenly emerged from the collapse of Austria.

Having made its decision and entered the war America went about the business of waging war with characteristic energy. Ford's share in this

effort was typical not only as marking the point of view of a man whose opinion of war as "murderous and wasteful" in August, 1915, had changed by August, 1917, into a belief that this particular war might "crush militarism" and "destroy war for the future," but typical also of the mechanical efficiency which in the end tipped the scales on the side of the Allies.

Ford himself, out of his faith in engines, had declared, "If the war is to be won, it will be won by the nation that knows best how to use machinery and tools." Inevitably this was true, in a war-fought with shrapnel from trench formation. Victory lay on the side that was master of explosives, and mastery of explosives was a matter of man power, lines of communication, and industrial efficiency.

From April, 1917, to November, 1918, the Ford factory turned out war material. It continued to manufacture cars and parts of cars. But it also manufactured steel helmets and artillery caissons. It built six-ton army trucks and ambulances. It made half a million cylinders for Liberty motors. It ran up a building at River Rouge a third of a mile long for the purpose of manufacturing Eagle boats. And it produced hulls for these seagoing ships two hundred feet in length as it produced mud-guard brackets for

a family Ford: stamping them out of sheet metal with machinery it had perfected for that purpose.

The submarine that was to be a pill on a pole did not materialize; but when the war ended, production had been begun at Highland Park on a fleet of fifteen thousand baby tanks.

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The part played by the Ford company was typical of the industrial experience of America in the war: the sudden spectacular transformation of peace machinery into war machinery, the standardization of methods and equipment, and the adaptation of the same successful processes that had lately been devoted to the mass production of conveniences and luxuries to the mass production of gun carriages and high explosives. The Ford experiment, however, had a still more characteristic chapter to contribute to the story of America in these years. That chapter came at the end of the war, when German resistance suddenly collapsed and the Armistice left America high and dry, with its passions roused to a high pitch of excitement and a sense of scarcely having started.

What emerged at the end of the war was an effort to placate emotions that had been deeply

stirred and thoroughly wrenched from their accustomed moorings. One form which this effort took, for a very considerable number of Americans, was a remorseless search for some new enemy to take the place of an enemy which had all too suddenly surrendered. Loath to abandon the idea that America was no longer fighting Germany, the American Defense Society called for a new war-after-the-war on German goods and warned the public of "the risks of poisons and germs in German products." Loath to part with the thrills of standing guard in war days against spies and traitors, a large company of Americans resurrected the Ku Klux Klan and mounted guard on a new frontier. Loath to be left too suddenly at peace in a world that had lately been at war America imported a new threat from Russia. Men who had traded the charge of pro-Germanism in 1917 and 1918 now accused one another in 1919 and 1920 of plotting to drag the country into internationalism and wittingly or unwittingly playing the game of the Bolsheviki.

How many Americans were playing the game of the Bolsheviki in these years no statistician could compute. An enthusiastic Department of Justice reported on one occasion that it had compiled a card-index of no less than sixty thou-

sand suspects, but this was only a beginning. All over the country Americans were accusing one another of subversive action.

The drys accused the wets. According to the State Superintendent of the Anti-Saloon League of New York, "The main centres of anarchistic activities have been wet centres."

The wets accused the drys. "All radical elements and all I. W. W. leaders are earnest advocates of prohibition," said a statement of the Association Opposed to National Prohibition, "as they assert that it is driving into the radical groups many men who in normal times are law-abiding men."

Big Business accused radicals who demanded government ownership of public utilities, and declared that in their adopted rôle as champions of the people they were stirring up class feeling.

One champion of the people, Mayor Hylan of New York, in turn accused Big Business: "A certain few men in this country, controlling the food supplies of the United States, are responsible for Bolshevism."

Opponents of organized labour, like Congressman Blanton of Texas, found the real menace in the labour unions: "It is in the labour unions of this country, among organized labour, that an-

archists find harbour and succour and protection."

But for Mr. Gompers, representing organized labour, the real menace lay in Congressmen like Mr. Blanton and legislation of the type they sponsored: Congress itself "would not be free from responsibility . . . should Bolshevik doctrines ever obtain a foothold in this nation."

Meantime the National Association Opposed to Woman Suffrage urged the Senate committee investigating Bolshevism to investigate the suffragists. The Lusk committee in New York began investigating college settlements. The Republican party accused the Democratic party of flirting with internationalism, and Mr. E. H. Moore, national committeeman of the Democratic party in Ohio, charged the Republicans with responsibility for the Wall Street bomb explosion: "I hope the Republican leaders will take a lesson from the dastardly act in New York to cease appealing to every radical element of discontent in the country. . . . Big Business has joined hands with Bolshevism to secure the defeat of the Democratic candidate. Republican representatives in Congress, to conciliate this element, greatly reduced the appropriation to the Department of Justice that was designed to rid the country of Reds. It is significant that

within a few days after the Department was forced to reduce its force this awful outrage took place."

Bolshevism stalked the country and the nation rang with accusations. Democrats accused Republicans, Republicans accused Democrats, both accused Socialists, Socialists accused capital, capital accused labour, labour accused employers, wets accused drys, drys accused wets, three hundred and eighty-seven items of Bolshevik news at home and abroad were printed in the columns of a single newspaper, the New York Times, in the first five months after the Armistice, and a nation whose war emotions had been interrupted in full flight by the signing of the Armistice found solace for its loss in a flood of new crusades, new allegations, counter-allegations and invective.

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For the startling series of disclosures which burst suddenly into this post-war America from a Ford office in Dearborn, announcing the discovery of a new "Jewish menace", there have been many explanations. One fact is clear. This new crusade, like other crusades in these same years, picked up where the war left off. For it was twelve days after the Armistice that the

foundings of the Dearborn Independent was announced; and though this journal made its first appearance modestly, though it followed the conventional pattern of a sedate family magazine and expressly pledged itself not to use "material of a startling but superficial nature which would only lead the reader to expect more of the same kind in the future," it was not long before the trumpet sounded and a new crusade began.

It was "the international Jew," the Dearborn Independent told its readers, who was responsible for most of the troubles that beset a post-war world, and there was no use wasting time on the lesser culprits who were merely pawns in an ambitious game.

Superimposed upon the Jewish race was a secret leadership which had drawn up "the most comprehensive programme for world subjugation that has ever come to public knowledge." This programme aimed at establishing the supremacy of the Jews by "sowing the seeds of disruption" among the Gentiles, fomenting unrest, encouraging factionalism, and eventually obtaining control of world politics and finance.

All this was to be done covertly, systematically, and with patience born of a realization that the reward would be worth the effort. The first line of attack would be an attempt to "trivialize

the public mind" in order to break down resistance and prepare the way for future gains, and it was apparently this stage which had been reached in the United States. For almost without exception every problem of the post-war world, every tendency which editors deplored, every grudge which average citizens bore their neighbours, was flourished by the Dearborn Independent as convincing proof that this ambitious plan for Jewish conquest was advancing toward its goal.

Had the war been followed by disillusionment, loose living, and a certain laxity in public morals?—"Jewish financial interests are not only pandering to the loosest elements in human nature but actually engaged in a calculated effort to render them loose in the first place and keep them loose."

Was drunkenness increasing?—"The profits of spirituous liquors flow in large amounts to Jewish pockets. . . . Historically, the whole prohibition movement may be described as a contest between Gentile and Jewish capital."

Were rents higher than they used to be before the war?—"It is a fact established in the larger Eastern cities that the recent exorbitant and extortionate rise in rents was largely a matter of the Jewish landlord."

Was farm labour growing scarce?—"The Jew-controlled melodrama made the farmer a 'rube' and Jew-controlled fiction represented him as a 'hick,' causing his sons to be ashamed of farm life."

Were the flappers wearing skirts that showed their knees?—"These styles came out of Jewish clothing concerns, where certainly art is not the rule nor moral influence the main consideration."

As for night life and the tireless parade of fads and follies: "Gambling, jazz song, scarlet fiction, side show, cheap-dear fashions, flashy jewelry . . . every such activity has been under the mastery of Jews. . . . There are men in this country who know two years ahead what the frivolities and extravagances of the people will be because they decree what they shall be."

The modern taste for luxuries, the ill feeling between town and country, the costumes of the chorus girls, the quarrel over wages, the shabbiness of the moving pictures, the increase in farm mortgages, the spread of the Darwinian theory—all this was the work of Jewish instigators, aimed at "demoralizing the Gentile public financially, intellectually and socially."

In fact, looking back on this campaign of the Dearborn Independent it is difficult to find anything wrong with the United States of 1919-1920

except the high cost of living, the income tax, and the unrest of the younger generation for which Jewish leadership was not held to be directly, indirectly, or by inference responsible. And even this was not quite right. For Jewish leadership had a good deal to do with the high cost of living; taxes which fostered discontent fitted perfectly into the plot to confound the Gentiles, even though these taxes might not be of Jewish making; and as for the younger generation:

“Every influence that leads to lightness and looseness in Gentile youth to-day heads up to a Jewish source. . . . It is possible to take the showy young man and woman of trivial outlook and loose sense of responsibility, and tag them outwardly and inwardly, from their clothing and ornaments to their hectic ideas and hopes, with the same tag: ‘Made, introduced and exploited by a Jew.’”

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It was a brisk campaign, its first sally ran through twenty issues of the Dearborn Independent, and one of the results which might have been anticipated was a backfire of resentment.

In Pittsburgh a police order prohibiting the sale of the Dearborn Independent was followed by an exchange of accusations, local riots at several

news-stands, the arrest of nine men, and a battle in the courts. In Toledo the Associated Press reported that the sale of Ford's paper "precipitated a gang fight in front of the Federal Building, traffic was blocked and police reserves were called out to disperse the mob." In Cincinnati a press censorship was established as the result of protests filed with the city council.

Feelings ran high. Mass meetings of Jewish citizens denounced Ford and challenged him to prove that the charges in his journal were well founded. Resolutions were introduced in Congress. Public libraries in several cities barred the Dearborn Independent from their files. The grand lodge order of B'rith Abraham, in convention at Atlantic City, flatly accused Ford of supplying financial backing for the Ku Klux Klan. A Jewish theatrical man filed suit for five million dollars' libel. And a lively debate went forward as to the meaning of these spirited assaults.

Certain observers suggested that the real factor behind the articles in the Dearborn Independent was Ford's discovery that an "international Jewish money power" had blocked his peace crusade. Other observers thought that the new campaign had its origin in a financial problem: that years before this time, when the Selden patent suit was pending, Ford had attempted un-

successfully to borrow \$20,000 from certain Jewish bankers in New York and from his failure had drawn the conclusion that Jews were in league against Gentiles. To these charges the Ford company issued an authorized denial, asserting that Ford had never attempted to borrow money from a Jewish banker, denying animus against the Jews, and insisting that the articles in the Dearborn Independent had been "eminently fair, temperate and judicial." It was simply a matter of somebody doing something about the Jewish question, and Ford had volunteered.

He had volunteered in too great a hurry, said his critics. Admittedly the richest treasures in the Dearborn Independent series had been dug from the pages of a sensational set of papers known as "The Protocols of the Learned Elders of Zion"; and by a hundred different Jewish societies and federations these "Protocols" were denounced as clumsy forgeries. "There has never been an organization of Jews known as the Elders of Zion, or the Zionist Men of Wisdom, or the Wise Men of Zion," insisted a protest filed by a group of Jewish leaders in New York. "There has never existed a secret Jewish body organized for any purpose such as that implied in the Protocols. The Jewish people have never dreamed

of a Jewish dictatorship or an overthrow of civilization."

But the Dearborn Independent was not to be dissuaded. Insisting that "the statements offered in this series are never made without the strictest and fullest proof," the Independent hammered away at its appointed task, elaborating on its early charges, discovering new perils in the Protocols of Zion, gaining in fervour as it worked up steam, warning the country that a menace threatened it, quoting from the Protocols due notice of the "dissensions, animosities and feuds" which were to be the instruments of Jewish conquest, demanding the reformation of the Jewish people and waving the bloody shirt of the Wise Men of Zion week by week in the rural mails.

"Time will show," said Ford in 1922, "that our critics are merely dealing in evasion because they dare not tackle the main question."

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It is anticipating the story to look ahead, from 1922 to 1927, to see what time did show. But it is only by anticipating the story that the story can be told.

The day was to come, seven years after the first broadside had been fired by the Dearborn

Independent, when Ford was to testify that he had lost touch with this adventure and had been astonished by what he found when he discovered it again.

He had lacked time, he said, to keep in touch with the contents of his paper, but certain friends had told him that "the character of the charges and insinuations made against the Jews, both individually and collectively, contained in many of the articles circulated by the Dearborn Independent, justified the righteous indignation entertained by Jews everywhere." He had accordingly taken occasion to read the Dearborn Independent and had been "deeply mortified that this journal, which was intended to be constructive, had been made the medium for resurrecting exploded fictions." There was no truth in the charge that the Jews were engaged in a conspiracy to control the capital and industries of the world. The so-called Protocols of the Wise Men of Zion had been demonstrated "to be gross forgeries." Had he appreciated "even the general nature, to say nothing of the details" of these charges, he would have "forbidden their circulation without a moment's hesitation."

The crusade was over, and the Jewish menace disappeared.

"Those who know me," Ford declared, "can

bear witness that it is not in my nature to inflict insult upon and to occasion pain to anybody, and that it has been my effort to free myself from prejudice. . . . I deem it to be my duty as an honourable man to make amends for the wrong done to the Jews as fellow men and brothers, by asking their forgiveness for the harm I have unintentionally committed, by retracting so far as lies within my power the offensive charges laid at their door and by giving them the unqualified assurance that henceforth they may look to me for friendship and goodwill."

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No doubt a wise man wholly remote from all of this might have questioned the wisdom of these tactics, might have wondered what was gained by attacking first and investigating afterward, by rushing into print with allegations, by launching bitter attacks without looking to see whom they were hitting, and by making excited charges only to withdraw them.

Yet no wise man, looking at America in these years, would have thought Ford's journal alone in its sudden fears and its false alarms: not in the America which emerged from the war overburdened with fears and distracted by false alarms from all directions.

For this was the same America which had produced the Ku Klux Klan, filled the card-index files of the Department of Justice with the names of sixty thousand "suspects," started the Lusk committee on its labours, used the Espionage Law to establish a federal spy system, brought the American Defense Society to the front with a warning against "poison and germs" in German toys, made the question of Bolshevism an issue between neighbours, broadcast suspicion, intolerance, and ill will, and attempted to explain all the unexpected and unwelcome disarrangements of the old order, following in the wake of a world war, on the simple theory that since something was plainly wrong with things as they used to be, obviously there must be a villain.

In its haste to find that villain the Dearborn Independent helped the American people write a stirring chapter of their story in the first two years of peace.



CHAPTER X

THE TEMPLE OF A THOUSAND CHIMNEYS

SHIPS might sail and plans for peace might go astray. Conspiracies might be discovered and villains be caught red-handed. It was apparent, none the less, that America must have its motor cars and that neither the *Oscar II* nor the Wise Men of Zion could interfere for very long with the manifest destiny of what had been hammered out in the shop on Bagley Avenue: namely, the Ford idea of production.

One million Fords had left the plant at Highland Park when the peace ship sailed for Europe. Five million Fords had had their fling on the open road when the Jewish crusade in the Dearborn Independent reached its first crescendo.

It is worth noting that the same eight years from 1914 to 1922 which witnessed two of the most spectacular of Ford's adventures into unexpected bypaths witnessed also the perfection of his processes of mass production.

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It was a new Ford company that lined the city curbs and packed the country roads with tour-

ing cars in 1922. One by one the early partners in this venture had dropped out along the way. Some of them, like Strelow, had sold their stock too early in the day to share in the first rich profits of an age of motors. Others, like Anderson and Gray, had hung on long enough to reap vast fortunes. The last of them to leave was Couzens, who sold his stock to Ford for thirty-five million dollars cash in 1919, the first year of the Dearborn Independent and the tenth year of Model T.

Ford stood alone in 1922, at the head of a vast organization that employed fifty thousand men. This organization not only manufactured motor cars at the rate of four thousand cars a day. ~~It manufactured tractors.~~ For Ford's first venture with an engine on four wheels, the steam engine with a kerosene-heated boiler he had built at Dearborn, had blossomed by this time into a low-priced power unit for the farm which was placed on the market for the first time in 1918, after fifteen years of experiment in the Ford factories to find the right design. The tractor, Ford had decided, was as inevitable as the motor car. "The farmer must either take up power or go out of business." And up and down the countryside a new-style Ford was hauling ploughs and threshing grain, pulling stumps and

ploughing snow, furnishing motive power for pumping water, shearing sheep, and churning butter.

Year by year the Ford company had set new records in production. Feats that seemed spectacular in the first plant which it had built with its early earnings were commonplace in 1922. Processes that had taken hours of hand labour in the old days, when a foreman used to stand by with a piece of chalk to mark up the day's production on a tally board, had become machine processes requiring only a pull of a lever by a workman who had only one lever to pull all day, so standardized in every phase of their operation that even the inspection of the finished work was automatic. Cars came out of the Ford factories at a pace so swift and headlong that those early partners of Ford who had been alarmed at the thought of the company's future when he forced production to a hundred cars a day, and had contemplated applying to the courts for an injunction, would have had the courts in an uproar by this time, if fate had left them partners in this venture.

Mass production was making giant strides at Highland Park and at a new Ford plant at River Rouge, on the outskirts of Detroit. A few essential principles were implicit in its progress.

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One of these principles, and one of the chief factors in the success of the Ford adventure, was a willingness to live by experiment rather than by tradition and to scrap old methods even though they had the weight of experience behind them.

Time after time, since the days when Ford had brought home a valve-strip stem from a wrecked French car at the Palm Beach races and found a furnace in Canton, Ohio, to produce vanadium steel for his first Model T, the Ford factory had challenged the premises of every process in the problems of production with which it had to deal.

It had been told that it could not cast gray iron by its endless chain method, and had succeeded in doing it by ignoring an impressive record of experiments which had failed.

It had been told that there were limits to the perfection of machine processes and that no machinery could cope with problems as intricate, for example, as fitting and soldering the ninety-five tubes of a radiator core without hand labour; but it had succeeded in developing a machine process that produced two radiator cores a minute.

It had been told that it could not hope to,

improve upon existing methods of manufacturing plate glass, either by hand or by machinery; but it had been willing to experiment with these methods because it was now using a sixth of all the plate glass manufactured in the United States, to put windows and windshields on its long parade of motor cars; and in the end it profaned the memory of the glass makers of Murano by pouring a mixture of raw materials from a furnace directly onto a revolving drum and rolling out glass in ribbons two city blocks in length, cooled gradually from a temperature of fourteen hundred degrees at the revolving drum to a point where it was cold enough to handle.

The Ford factory had this advantage: the automobile industry was a young industry; it had none of the traditions of an older industry and no time-honoured injunctions against doing things any other way than they had been done for years.

The Ford company could try as many innovations as it liked without shocking its own engineers. In a rapidly changing world it lived by trial and error.

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Experiment with new methods of producing parts for motor cars was one factor in Ford's

success with mass production. A second factor was experiment with new methods of fitting these parts together, into something that would run, with so great an economy of effort that a production programme of four thousand cars a day could be embarked upon without throwing the producing units into complete confusion.

Ford's experiments in this direction had begun with his decision to limit his output to a single car in 1908 and his first adventure with a moving belt. The idea of the belt was borrowed from the Chicago packers, who used an overhead trolley to swing carcasses of beef down a line of butchers. Ford tried the idea first in assembling a small unit in his motor, the fly-wheel magneto, then in assembling the motor itself, and then in assembling the chassis.

A chassis was hitched to a rope one day, and six workmen, picking up parts along the way and bolting them in place, travelled with it on an historic journey down a line two hundred and fifty feet in length as a windlass dragged it through the factory. The experiment worked, but developed one difficulty. God had not made men as accurately as Ford made piston rings. The line was too high for the short men and too low for the tall men, with a resultant waste in effort.

More experiments were tried. The line was raised; then lowered; then two lines were tried, to suit squads of different heights; the speed of the line was increased; then lessened; various tests were made to determine how many men to put on one assembly line, how far to subdivide the operations, whether to let the man who set a bolt in place put on the nut and the man who put on the nut take time to tighten it. In the end, the time allotted for assembly on a chassis was cut from twelve hours and twenty-eight minutes to one hour and thirty-three minutes, the world was promised Model T's in new abundance, and mass production entered a new phase as men were made still more efficient cogs of their machines.

This was the evolution of the moving belt which had achieved such fame in 1914, when the press discovered Ford, that tourists flocked to Detroit to see it work; and as mass production achieved new feats which would have dismayed Ford's partners ten years earlier and the output of the Ford plant increased from seven hundred cars a day in 1914 to four thousand cars a day in 1922, the principle of assembly on mechanically driven lines came gradually to be established in every phase of the work at River Rouge and Highland Park.

"Every piece of work in the whole shop moves," Ford said in 1922. "It may move on hooks on overhead chains going to assembly in the exact order in which the parts are required; it may travel on a moving platform, or it may go by gravity, but the point is that there is no lifting or trucking of anything except raw materials."

So thoroughly had the principle of keeping production constantly in motion been established in the Ford factories that even raw materials themselves had been caught up in the wheels of the Ford system.

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For it was a third step in the development of the Ford idea in these years, and a third step in the business of manufacturing eight miles of motor cars a day, to extend the Ford system of production until it covered adequate and economical sources of supply.

Year by year, as the Ford company experimented with overhead chains and moving belts, new methods of producing glass and new processes of casting iron, the Ford company experimented also with the development of the first great "vertical combination" in the history of American business, a long-legged organization

reaching from raw materials at one end to a manufactured product at the other as complex as a motor car. And though these were the years when the Dearborn Independent had the centre of the stage and more people were talking of Ford and the Jews than of Ford and coal or iron, a story as adventurous as the tales told in the Protocols of Zion could have been read between the lines.

First came the news that Ford had bought the Detroit, Toledo & Ironton Railway, a property with three hundred and fifty miles of weather-beaten track but a valuable geography, giving it access to most of the trunk lines east of the Mississippi. Then came news of Ford's purchase of a coalfield in Kentucky and his decision to enter the shipping business as well as the coal business and the railway business, by building a fleet of modern vessels equipped with Diesel engines to carry his freight on the Great Lakes and the St. Lawrence. From this time forward the financial pages of the daily press reported acquisitions of new properties as regularly as headlines over bulletins from Dearborn told the story of the Protocols of Zion: timber land in northern Michigan; coal in West Virginia; water power on the Mississippi.

The Ford idea was advancing. The business of

manufacturing an automobile no longer began in a foundry or a tool room, but in a vast supply of raw materials distributed scientifically into a tireless routine of machine production.

Coal dug in a Ford mine in West Virginia came over a Ford railway to be burned in a Ford plant at River Rouge. Mechanical transmission took coke from the by-product ovens to the blast furnaces and iron from the blast furnaces into shops where it was poured directly into moulds without reheating. Ammonium sulphate salvaged from the coke ovens went into fertilizer for a Ford farm, where left-over straw was made into a rubber substitute called Fordite used for the steering wheel of a family Ford built out of metal cast by Ford methods in moulds which were in transit, put together on a Ford moving belt, boxed with wood cut in a Ford lumber camp, and sent down to the sea in new Ford ships.

Fire burned stick, stick beat dog, dog bit pig, and Model T jumped over the stile and went on its way rejoicing.

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This was modern mass production. And as the Ford company geared its output to a speed that set new records, as one vast source of raw materials after another came into its industrial

empire and the economies of its far-flung methods proved their worth in the production of a four-cylinder motor car that sold in 1923 at less per pound than beefsteak, it is small wonder that this manufacturer who had turned sixty years in 1923 and promptly celebrated his birthday with a new record of seven thousand cars a day took his place with the Titans of an age of steel and iron, personifying the restless forces at work in his dynamic industries.

Highland Park and River Rouge became for the average man the outposts of a new industrial frontier. "Fordize" took its place with the verbs of a machine age. A "Ford philosophy" began to evolve in the experimental room of the old tractor plant at Dearborn, where Ford had his office, a philosophy of moving belts and machine-made comforts which promised to redeem the world from its complacent inefficiency. "Fordism" became a convenient term with which to label the high-speed factory civilization which was spilling over the Occident into the Orient. Historians charted the progress of this modern culture in their textbooks. Economists debated its significance. Philosophers quarrelled over its effect upon the soul of man.

One school of observers stoutly claimed that the net effect of these mighty processes was to

harness men to their machines; that the constant monotony of work in a modern factory as highly organized as the Ford industries was enough to batter away at the human soul till it was pulp; that this tireless emphasis on quantity production left no room for emphasis on quality; that the old days with their rich opportunities for fine craftsmanship were plainly going by the board; and that the certain end of all this furor over efficiency in producing worldly goods in great abundance was to lead civilization into the poorhouse intellectually.

Arguing from a different set of premises a second school maintained that there was freedom rather than slavery in these modern methods of production; that the monotony of machine labour was a blessing if it gave men higher pay and shorter hours; that there was nothing to be ashamed of in emphasis on quantity production when it was flooding the nation with comforts and conveniences for people who had never had them before in the whole run of history; and that the function of the machine was to liberate men from brute burdens and the pinch of poverty, and give them so complete a mastery of their environment that some day they might begin to tinker with the universe.

For the man in the street, meantime, it was

enough to note not what might happen ultimately but what was actually happening day by day as new records were broken at Highland Park and River Rouge, profits went up and prices came down, the government's tax reports showed the cash assets of the Ford company larger than the cash assets of any other corporation in the country, and the headlines proclaimed that a man who had had no money and no job at the age of forty had suddenly become the richest man the world had ever known.

Year by year the galloping figures of Ford's income and production brought fresh proof to the average man that here, in fact, was a magician capable of working wonders, and the average man was prepared to see him succeed at anything to which he turned his hand.

The Senate of Nebraska voted 25 to 6 in February, 1923, to invite Ford to come to that state to develop its water-power resources. The New York State Waterways Association asked him to use his influence with Congress to see that the Hudson River was properly developed from Albany to Troy. A doctor of philosophy at William and Mary College invited him to buy the city of Williamsburg to preserve its records. The fruit growers of Oceana County, Michigan, appealed to the President to purchase

the railways of the country and turn them over to Ford in the interest of efficient operation. The stock of the National City Bank in New York rose fifteen points in December, 1925, on the unconfirmed report that Ford was to become a member of its Board of Directors. The stock of the Gulf States Steel Company dropped twenty points on the news that Ford was not interested in buying into it.

There was no limit to what was expected of Ford by a large part of the American public provided it could only capture his attention.

When the Arms Conference met in Washington in 1921 it was reported in the New York World that Ford would offer to purchase the whole French fleet in the interest of disarmament.

When a cotton surplus threatened the South with so serious a depression that the government itself took a hand in an attempt to re-establish prices, Representative Allgood of Alabama appealed to Ford to save everybody time by buying enough cotton to stabilize the market.

When the Dawes Plan went into effect with an offering of one hundred million dollars' worth of bonds in the American market, the New York Times reported a rumour in Wall Street that Ford would insure the success of the plan by buying the entire issue on the spot.

When Muscle Shoals went on the block and Ford submitted a bid which fell short of the requirements of Congress, a large part of the country promptly demanded that Congress accept it anyway. Mass meetings were held all over the South. Ford's bid was endorsed by state legislatures up and down the Mississippi. Crowds of new investors flocked to Muscle Shoals as eagerly as pioneers in search of gold had flocked to the Dakota hills when Ford was a boy in grammar school. Literature celebrating Muscle Shoals as "a second Chicago," "larger than Pittsburgh," "greater than Detroit," began flooding the mails in cargo lots. Plans for a dream city seventy-five miles in length covered pages of blueprints with new boulevards and city parks as optimism rose to giddy heights. And a correspondent of the New York Tribune, visiting Muscle Shoals in May, 1922, reported to his paper:

"In every barber shop, every pool room, every store window one can see a gilt-framed picture of Henry Ford. The cab drivers, chambermaids, hotel porters and barbers talk about him. There is the most implicit belief that his offer will be accepted and that he will as if by waving a magic wand transform the Tennessee Valley into a second River Rhine, teeming with traffic and lined with factories.

"They look upon his coming," this reporter added, "almost as that of the Messiah."

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Faith ran high, and no doubt there was much that seemed to warrant it. No doubt feat upon feat at Highland Park and River Rouge, car upon car and million upon million had piled up its irrefutable logic. Yet it is doubtful, even with all this, if faith in Ford would have been so prompt or its results so heady if faith in modern industry itself had not been pounded in on the American people day after day in these same years.

Production was increasing, new processes were being discovered, new methods were being applied, new miracles were being worked not only at Highland Park and River Rouge but in factories in every corner of the country. Because the automotive industry was a young and highly modern industry, setting the pace for American manufacturing in these years, and because the Ford plant set the pace for the automotive industry, Ford marched at the head of the procession. But he did not march alone. Wherever the output of a factory could be standardized, wherever mass methods could be applied to manufacture, wherever iconoclasts willing to

scrap tradition for bizarre new ways were in command, American industry was being "Fordized."

The same modern methods of production available for the manufacture of a family motor car were available for the manufacture of kitchen stoves, aluminum pans, and pocket knives. The same experimental science that enabled Ford to exploit by-products in his raw materials and salvage fuel from his waste could be turned to profit by the manufacturers of electric bulbs and rolling pins. The same ingenuity and tireless research that had equipped Ford with new methods of assembling a motor and new methods of making radiator cores had enabled manufacturers in a hundred trades to break new ground in their production. If Ford had built an automatic press that would do the work of sixty workmen with pneumatic hammers, if he had built a machine that could support a fragile sheet of cooling glass four hundred feet in length on the tips of its steel fingers, it was characteristic of a vast number of American industries in these years that they had hit upon new methods which were painstakingly ingenious and fabulously productive.

Year by year figures of the Department of Commerce showed a gain in volume of produc-

tion in American factories that outstripped the increase in the number of men employed. Year by year the lessons of scientific research, power-driven machinery, and standardized production taught by the leaders of American industry were being taken to heart by the rank and file. Year by year an ever-increasing stream of luxuries that had become comforts and comforts that had become necessities—washing machines, radios, pocket cameras, telephones, vacuum cleaners, balloon tires, gas stoves, and electrical appliances—poured out of busy factories into the lap of a nation which took this new opulence of a machine age casually and as a matter of course, because it had come to regard high-speed production as one of the premises of modern life.

If Ford stood out as a miracle worker in these years it was for one reason because Ford was merely the most glittering symbol on the contemporary scene of the wonders to be worked by applying science to the problems of existence.

§

Faith in science had become, in fact, one of the outstanding characteristics of a nation whose industry by 1922 was paced by mass production. A few sceptics might have doubts about the future. But for the mass of men science was the

magic wand waved over the modern temples of a thousand chimneys. Science was the talisman that opened new careers to young men from the ranks with empty hands. Courses in science multiplied in the colleges and universities. Courses in science offered their coupons in the advertisements of the correspondence schools. Courses in science doubled the attendance at twenty of the country's largest technical training schools within ten years.

It is no coincidence that the same decade and a half which witnessed Ford's experiments in the mass production of his Model T witnessed the last phase of the conquest of science over the classics in the public schools. For the advance of science was in full swing, and on every side it scored fresh triumphs. Science invaded the curriculum of the lower grades. Science invaded the daily press, each epochal advance in the frontier of medicine or physics taking its place with battle, murder and sudden death as first-page news. Science invaded the pink and azure pages of the Sunday supplements, stories of high adventure, broken hearts and chambermaids who married dukes moving over to make room for scientists who played spectacularly with atoms or destroyed toy towns with man-made thunderbolts. Science invaded the home, a flood of

women's periodicals bringing new standards into households run by rule of thumb for generations, discovering scientific ways of organizing housework, scientific temperatures for baking bread, scientific menus that gave scientifically trained families their day's requirements in vitamins.

For anything and everything that was "scientific" there was a vogue by 1922. "Scientific management" now stood on a par with chemistry and metallurgy as a new science of its own. "Scientific magazines" followed one another to the news-stands in bewildering profusion. "Scientific baseball" was the new game that had taken the place of the old game of hit and run. "Scientific budgets" spent the income of a vast number of families with the same speed but more logic. "Scientific institutes" enlisted armies of recruits for everything from methods of preserving health to ways of curling hair. Scientific methods of remembering names or impressing strangers or acquiring a personality beckoned from the advertising pages of the true-story books and the moving-picture magazines to those who yearned for wealth and power.

So far had the canonization of science gone by this time that it was only necessary to describe something as scientific to have it instantly commended to millions of devout believers.

The scene had changed since the old days when the America of 1869 stood between two frontiers, Ford studied the Blue-Back Speller, an upstart science was wholly ignored in the school curriculum, and the masters of applied science knocked at the doors of the schools in vain.

America had come around the orbit of the circle and the young science scoffed at by McGuffey had had its full revenge.



CHAPTER XI

THE FLIVVER TICKET

FLIVVER TEN MILLION left the Ford plant on the afternoon of June 4, 1924. Cameras clicked. A squad of reporters watched the christening. Bulletins for the evening papers carried the news across the country. A professor of music at Harvard wrote a symphony in honour of the occasion, to be played by philharmonic orchestras in Boston and New York. And in the second week of June the youngest scion of a long line of family Fords left Detroit on a pilgrimage that took it to the California coast over the trail of the covered wagons.

Brass bands and committees of reception met this traveller at towns along the Lincoln Highway. Old-timers with antique carriage lamps, rear-door tonneaus, and tufted cushions came out of their retirement to bid it welcome. Under its own power Model T No. 1004, which first saw the light of day in 1908, led the way for a mile or two at the head of the procession in honour of its illustrious 9,998,996th grandson,

and a few days' journey farther west Model F No. 482, of a family still older than the oldest Model T—an ancient line of narrow-waisted, high-hipped Fords that dated back to 1905—came chugging out to the reception line still hale and hearty.

It was a new road that led west in 1924: a hard, white road with none of the sand pits and the mud holes that had mired Model F 482 in the old days of linen dusters and experimental rambles out beyond the county line. There were no half-hidden trails along this line of travel, no wildernesses that were not converted into national parks, no crossroads that were left unnumbered. Had Model F 482 pursued this road to its western end in 1924, through the traffic jams of a hundred modern towns that had blossomed out of country villages in twenty years of mass production, its dim acetylene eyes might have blinked at its discoveries.

It was a sentimental journey that took the Ten Millionth Ford over the tracks of its forbears to the western coast, but with a slightly different twist of fate this might have been a business journey.

It might have carried a candidate for the Presidency of the United States on his stumping trip cross-country.

§

The spectacular boom of "Ford for President" which startled the country suddenly in 1923 had its origin in a meeting held in Dearborn in the spring of 1922. One hundred and thirty-seven of Ford's neighbours had assembled on this occasion, each wearing a cardboard band around his hat emblazoned with the slogan, "We Want Henry." Speeches were made, committees named, and the first "Ford for President Club" organized.

It was a humble start, and by all time-honoured precedents in politics it was not destined to go far. For the leaders of this movement were rank amateurs in politics. Eight of them were local Dearborn business men, one was a minister, one was a doctor, and one was an undertaker. They had no leverage in politics. They had no organization of ward bosses held in line by the friendly ties of party patronage. Their one idea was to form "Ford Clubs" by writing enough letters to their friends and selling "We Want Henry" tickets for a dollar.

Moreover, they lacked money. For there is no record in the story of the Ford for President Club of Dearborn or of its subsidiaries elsewhere of any contribution made by the candidate

in whose behalf these organizers laboured. It was their enthusiasm, apparently, not his, and the Ford boom lived on slender assets. Its home office in Dearborn consisted of an upstairs room so modest and so cramped in quarters that an investigator for the New York Tribune reported to his paper, "From the centre of the Ford for President Club it is impossible not to see the dentist working on the teeth of some Dearbornite across the hall or the arrival of a patient for the doctor."

Nor was this all. The Ford boom not only started with no funds and no political insiders to direct its destiny; it rallied around a candidate whose talents as a statesman were a vast enigma.

These were the days, to be sure, when spectacular feats of mass production stood out in sharp relief at Highland Park, when Ford was achieving his prestige as an industrial magician and when committees from Muscle Shoals and the Nebraska Senate were outbidding one another for his interest. Nevertheless, Ford as master of mass production at Highland Park was not Ford as President of the United States. The public had never had a glimpse of Ford in public office. His sudden and none too enthusiastic share in the Ford-Newberry contest of 1918 had involved him in a celebrated controversy

but failed to land him in the Senate. He had announced himself as through with politics on this occasion. And he had conducted himself as if he meant it, giving voice to a number of theories which any tyro in politics could have told him were sheer suicide for an ambitious politician.

He was on record, by this time, with a widely quoted remark that "there can be no greater absurdity and no greater disservice to humanity than to insist that men are created equal"—a direct affront to the time-honoured traditions of a self-governing republic.

He was on record as believing that the farmers of the country were a slow-moving, wasteful lot: "Nothing could pay the way farming is conducted. The farmer follows his luck and his forefathers. He does not know how to produce economically, and he does not know how to market. . . . The worst factory in Europe is hardly as bad as the average farm barn."

He was on record as believing labour unions "out of place in well-organized society" and declaring that "the only strong group of union men in the country is the group that draws salaries from the unions."

He was on record, precisely at the time when his admirers were most active in the sale of "We Want Henry" tickets, and precisely at the

time when they were most anxiously debating which party he belonged to, as declaring, "They will have to 'show me a difference before I affiliate with either party. They are both tarred with the same brush."

For a potential candidate for high public office to flout the democratic theory of equality, rebuke the farmers as incompetent, dismiss the labour unions as unnecessary, and describe the existing two-party system as a fraud, was no way to win votes.

Nor was it the least of the problems faced by the Ford committees that their candidate was apparently as disinterested and unorthodox in respect to politics in general as he was in the small talk of politicians on the stump.

He had proved this fact, in circumstances too recent and too dramatic to be forgotten, at his famous "libel trial."

§

Ford had taken the stand, a few years before his neighbours in Dearborn turned out to boom him for the Presidency, to testify concerning his point of view in politics and his familiarity with political affairs in general.

The setting was a courtroom in Mount Clemens, Michigan. The issue, Ford's suit against

the Chicago Tribune for a million dollars' libel damages on the ground that this newspaper had described him as "an anarchist" one year before the war. The trial began in a background of spurred and booted cowboys brought from the Mexican border by counsel for defendant, hot debates over the ability of a jury of twelve farmers to rule on abstract points of philosophical anarchism and the pungent fumes of the Mount Clemens sulphur baths which swept through the courtroom periodically.

It was an extraordinary trial, a carnival for the newspapers, a wild pursuit of theory for the experts, and a startling demonstration of the complex technicalities of law in which high-priced counsel can involve themselves when they set out to argue how many angels can dance on the head of a needle in an American court of justice. It ran from May to August, produced two million words of testimony, and summoned Ford to the witness stand to deny that he had ever been affiliated with an anarchist society or had ever been arrested. It filled the press with rumours of sedition and invasion, took the jury over such jumps as Bakunin and Erasmus, brought members of the faculties of three universities to Mount Clemens to testify to the historical derivation of anarchism as a theory,

and in the end, after nine ballots in the jury, awarded Ford six cents damages and costs as compensation for his efforts. From the point of view of this new boom of Ford for President, however, the important point was Ford's own testimony on the stand.

This was the occasion when the nation awoke one morning to find that Ford had described Benedict Arnold as "a writer," a pardonable slip of memory, but a slip of memory accompanied by a statement of views highly unorthodox for a potential candidate for President.

Asked to define his theory of "government" Ford had declared, "It's a long subject." Asked whether he was a student of history he replied that he "didn't know much about it." "I live in the present," he suggested; and he was willing to confess that he could neither recall the causes of the War of 1812 nor remember what had precipitated the war with Spain nor define the relations of the United States with Porto Rico any more precisely than to suggest, "We keep some of the army there, I guess."

Where the rest of the army was kept he admitted that he did not know; "I haven't been very much interested in armies." Other matters interested him more. He kept abreast of affairs from day to day in the pages of the daily papers,

but confessed that he "rarely read anything else except the headlines." And he testified, when counsel for defendant pressed him hard on his apparent lack of familiarity with this or that detail of public affairs and government:

"I could find a man in five minutes who could tell me all about it."

§

This was Ford on the witness stand a few years before his boom for President. The whole affair had been headline news. And whatever impression it had stamped upon the public's mind had at least not been an impression of a Daniel come to judgment. So casual, in fact, were some of Ford's expressed opinions in respect to politics, and so fresh was their memory in the public's mind, that when the new boom first appeared in 1922 a large part of the press informed the Dear-born Ford for President Club that it had set its hopes too high.

Certainly these were not the auspices under which booms usually started. And yet despite this fact, despite the libel trial, despite Ford's lack of political experience, and despite the inevitable handicaps of a campaign run by a group of amateurs whose specialty was writing letters, the Ford boom did not behave as it

should have behaved by all the laws of averages and the precedents of politics. Instead of collapsing it expanded. Within six months of the time when the first hundred and thirty-seven neighbours had brought their hat bands to a public meeting, three hundred Ford for President clubs had been organized in various sections of the country, a boom was plainly under way, and the New York Times reported that "Ford looms to-day a powerful and enigmatic figure on the political horizon."

Within another six months, and by the time the Dearborn club had celebrated its first birthday, the Washington bureau of the New York Herald declared that "the astonishing growth of popular sentiment for Ford for President is causing deep concern to Democrats and anxiety to Republicans," Senator King of Utah predicted that "if the election were held to-morrow Ford would sweep the country," and the first results of a poll of the electorate by Collier's Weekly showed Ford leading the President himself by a ratio of five to four.

Within three months more, and by mid-summer, 1923, organized Ford booms were under way in eighteen states; they had gained proportions, said the New York Herald, "that begin to stagger the old party leaders"; "Ford

would run like wildfire in the western country," the chief political correspondent of the Tribune wired from Montana; and complete figures in Collier's poll of a quarter of a million voters showed Ford leading the President eight to five and his nearest rival five to one, carrying every state in the country west of the Mississippi and every state in the country east of the Mississippi except three in New England and one in the South.

The humble boom that had started in a town meeting fifteen months before had become a formidable menace to the peace of mind of the routine politician. News of the Ford campaign camped on the front pages of the daily papers. Statements were issued by Senators from the South and West predicting that Ford would be nominated if the party leaders followed the mandate of the people. Will Rogers declared he was as good as elected provided he would promise the nation a new hood. Six ex-candidates for President came back to life on the wings of a possible candidacy as Ford's running mate, and certain eastern business men in whose eyes this despoiler of tradition loomed as a new and far more formidable Bryan from the West, a Bryan who talked in terms of cheaper prices instead of cheaper money, made no effort to conceal their

worry. Prophecies of a bolt to Ford darkened more than a few board meetings, and in at least one instance a successful firm in Wall Street opened the doors of the storm cellar.

Toward the end of summer, 1923, the insurance firm of H. W. Ives & Co. in New York announced that it had issued a \$400,000 policy against Ford's election.

§

It was a spectacular boom. It came out of space with the suddenness of the Ten Millionth Ford, and the newspapers were filled with the letters of indignant people who insisted that they could not understand it. "After seventy years of experience," said Chauncey M. Depew to the reporters in June, 1923, "I am at a loss to understand the psychology that makes Ford a candidate for President." With this opinion other observers entirely agreed. There was no precedent for this adventure and no means of explaining its success by citing the convincing reasons why it ought to be impossible. The whole affair was irregular, unconventional, and by all the traditions of politics preposterous. And in the end it failed.

It failed for a variety of reasons. It failed because the hero of the adventure refused to take a

hand in it, insisting that he was "not in politics," "not a candidate," and "not interested." It failed because there was no machine to consolidate the rapid gains of this chaotic movement as it lurched along from state to state. It failed because fate intervened precisely at the moment in midsummer, 1923, when the boom for Ford was at its height, Wall Street feared the worst, and the passive candidate of this unorthodox adventure was running away with polls in every section of the country.

Mr. Harding died. Mr. Coolidge emerged as a new leader. Against the dramatic background of an oath of office administered by lamplight in a New England farmhouse before daybreak on an August morning a new political figure took the centre of the stage. New loyalties emerged. New interests were aroused. Public opinion veered off suddenly upon another tack. Ford himself followed up his frequent disavowals of his own candidacy by championing the cause of this new leader.

Reluctantly the widely scattered groups that were flourishing Ford petitions in the primaries of a dozen states abandoned hope. Almost as suddenly as it had first appeared the Ford boom lost itself in the complete defection of its captain. Wall Street breathed easier, politics returned to

normal, and the members of the Ford for President Club in Dearborn put away their dreams and closed their ledgers.

Nothing remained of this adventure a few months after it had reached its peak save a sheaf of headlines, a mountain of straw ballots, and a warning.

§

What this warning was it is not difficult to see to-day, nor should it have been difficult to see in 1923, in the light of the cold gray morning after. It was the essence of the Ford boom that it marked a certain unmistakable change in the attitude of the American public toward the business of self-government.

There had been a day, no longer ago than Ford's own boyhood, when the business of self-government was assumed to be every man's affair, when the art of statesmanship enjoyed vast prestige, when a career in politics was the noblest career that beckoned to a growing boy, when parents bred their sons on bits of verse and "Delsarte gestures" as a means of fitting them for public speaking, when the fate of the nation hung perennially upon the manoeuvres of two parties, the public watched with breathless interest the ebb and flow of debates in Congress, and an aura of omnipotence shone from the

starched shirt bosoms of Titans whose reverberating metaphors sank home in every corner of the country.

That day had vanished now. The routine work of the average politician seemed tame by comparison with the glittering opportunities of modern business; the glamour was gone from Congress, and the stage was set for the industrialist and not the statesman.

Big Business gathered power in its hands, broke ground in science, and explored new frontiers while legislatures talked themselves into a daze and called the roll six times to build a bridge or pass a free seed bill. The hot debates that had thrilled the nation forty years before lacked power in a day when the public was convinced that the real decision rested ultimately with the great captains of finance who controlled the party system from behind the scenes and merely pulled the strings. Fame had departed from the legislative halls. It was a rare American who could name off-hand three Congressmen from his own state. And by comparison with the smoothly working, highly efficient organization of modern industry, politics, with its empty promises, its endless talk, its antique codes of legislative action, and its mountainous red tape, seemed slipshod, slovenly, and out of date.

No doubt there were extenuating circumstances. No doubt politicians, unlike businessmen, were compelled to wait until a vague "majority" had given them its mandate before they dared to make decisions, scrap old methods, or experiment with innovations. No doubt the field in which the politician laboured was a field of complex interests working at cross-purposes, lacking the single-minded wish for profits or expansion that animated business. No doubt in a day of mammoth profits industry was robbing politics of talent: young men with brains and ambition no longer practised Delsarte gestures in the public schools but studied chemistry and physics and chose business in preference to politics because it paid incomparably better wages.

Nevertheless, whatever the extenuating circumstances, the result was clear and the conclusion plain. For the man in the street industry had achieved superb efficiency precisely at the time when politics was floundering. By 1923, when the Ford boom got under way, there was no more settled conviction of the public than that government meant bureaucracy, no easier way to damn a new idea than to suggest that it would inevitably "fall into the hands of the politicians," and no more familiar figure in the

pages of the comic magazines than the symbolical Congressman who straddled the fence on all contentious issues, voted dry, lived wet, kissed babies, rolled his brother's logs, and invoked Hamilton or Jefferson whenever he needed an excuse to change his mind.

American politics, lagging behind industry in prestige, could have profited from standardization on one low-priced model, scientific research, overhead pulleys, and a moving belt.

§

It was the new prestige of industry, piling up its feats of mass production, that took the Ford boom out of the hands of the amateurs in Dearborn and made it a reality in politics.

What did it matter to the man who cast his vote for Ford in a straw ballot in 1923 that Ford had identified Benedict Arnold as "a writer" or declared of government that it was "a long subject"? As against these theories stood the fact that Ford had made a million motor cars in the first six months of this same year, that his tax return showed he had more cash in his treasury than the United States Steel Corporation, and that his income represented a yield of five per cent. on the utterly fantastic sum of two and a half billion dollars.

What did it matter that Ford had admitted he "didn't know much about history" and confessed that of current news he "rarely read anything else except the headlines"? This was notoriously a day of looking ahead, not back; Cæsar himself would have been swamped in a world of mass production; and as for daily news poured from a thousand sources into vast forty-eight-page newspapers, except in those matters which touched upon his hobbies or his special interests, the average man himself rarely read anything except the headlines and perhaps a paragraph or two of type.

As for such matters as America's relations with Porto Rico and the War of 1812 and the whereabouts of the army; these things were matters of reference, record, "book knowledge," wholly apart from the concrete business of "getting things done"; and in an age when things were done at cyclonic speed no more abiding faith resided in the American people than was expressed by Ford's own theory of such matters, that he could "find a man in five minutes who could tell him all about it."

Ford had this advantage as a potential candidate for President: so great was the prestige now enjoyed by industry at the expense of politics that without bothering to enter politics he

could lift the average issue of the politician 'out of the realm of oratory into action.

While gentlemen in Congress were clamouring for a chance to mount the rostrum and pour out their hearts in a ringing tribute to "economy" which would bring the blessings of a reduction in the price of government, Ford dealers in every corner of the country were hanging out a placard, "Price Reduction," for the seventh time within three years.

While other gentlemen in Congress were pleading for conservation of the forests, Ford was buying a forest, cutting his timber with strict regard for the protection of young trees, and making headline news of the fact that he had installed a method of sawing body parts direct from unedged planks with a maximum salvage of material.

While the night air resounded at Fourth of July rallies, 1923, with the eloquence of statesmen consecrating themselves to the maintenance of American standards of living, an item in that morning's papers had announced that Ford employees holding investment certificates were sharing in the distribution of a million dollars' profit.

While committees of the Senate were dodging action on the complex problem of consolidating

unprofitable railways, while coal commissions were reporting to the President on the amalgamation of unprofitable mines, and while Muscle Shoals loomed as a white elephant in the eyes of Congress, Ford was buying unprofitable railways, buying unprofitable coal mines, and insisting that Congress sell him Muscle Shoals.

If the Ford boom promptly rose above its humble origin in Dearborn, if it achieved proportions within a year that astonished the early sceptics and actually threatened for a time to sweep the country despite the efforts of established party leaders, it was because the prestige of modern industry had made Ford a one-man party with a platform of his own.

§

Flivver Ten Million headed west in 1924 over the broad highway that led across the nation. Brass bands and committees of reception met it on its way. Old-timers with plenty of mileage still left in their antique beams escorted it on its pilgrimage from town to town. It was a pleasure trip, not a business trip. No party banner fluttered from its imitation leather top, and no candidate for high public office spoke from its running board to campaign crowds. Nevertheless, the sudden boom that had died away only

a few months before the Ten Millionth Ford was born served notice that a new problem in politics lay not far around the corner.

Year by year the business of government had been growing more complex and more obscure. Year by year the average citizen felt less assured that he was able to keep pace with what was going on, less convinced that when "drives" had been organized to persuade him to go to the polls to vote for minor candidates whose names he did not know and major candidates hamstrung by the democratic system, a modern community was functioning as efficiently as a modern factory.

What adventures lay ahead, and to what degree the average man's idea of efficiency could be reconciled with his theories of democracy, it was impossible to predict in 1923.

It was enough to note that a new party knocked at the door of politics that year, demanding its place on the ballot under the symbol of an eagle, a star, a hammer and sickle, a raised torch, or a closed coupé.



CHAPTER XII

POP GOES THE WEASEL

ON THE evening of December 11, 1925, the new laboratory building of the Ford Motor Company at Dearborn resounded to the strains of a cymbalum, a dulcimer, a fiddle, and a sousaphone. Bright lights sparkled over a waxed strip of factory floor transformed into a ballroom by a canvas fence that shut it off from a world of piston rings and cam-shaft bearings. Fifty couples pirouetted to the galloping strains of an old-time reel. The night was young, the music gay. And setting the pace for the gentlemen who whirled their ladies around the floor was the champion fiddler of Norway, Maine, playing "Pop Goes the Weasel" alternately on his own fiddle and a Stradivarius.

"Weevily Wheat," "French Four," "Lady Washington's Reel," and "Speed the Plough." . . . The old dance tunes came rippling from the bow of a craftsman whose heart was in his song. . . . "Fisher's Hornpipe," "Boston Fancy," "Arkansas Traveller," "Old Zip Coon." . . .

Under the rafters of a laboratory dedicated to the task of making two Fords grow where one Ford grew before, here in the home of human effort geared to the clockwork of a moving belt and the citadel of mass production, the night grew old to the strains of dances danced when America was young, mass production was unheard of, life moved on at a leisurely pace, no pop stands lined the open road, and the Lincoln Highway was a country lane.

"Come back? They're here!" Ford explained of the old dances when the Associated Press asked him for a statement on the morning after. "We're simply falling into line." Polka, ripple, minuet, quadrille, varsovienne, and schottische: a repertoire of fourteen dances was being taught two nights a week at Dearborn. "Everyone has to learn to dance in absolutely the correct way. The rules are followed. There is no holding up of two fingers for a dance and no 'cutting in.' The ladies do not enter the room unescorted and must slightly precede the gentlemen. No one is expected to cross the centre of the ballroom. Everything is formal. The instructions are all in the manual we have had written."

Ford Manual No. 2: and like Ford Manual No. 1, which had preceded it by some ten years and given a vast American public its first home-

study course in popular mechanics, Ford Manual No. 2 was brief, compact, direct, and rich in its proof of the advantages accruing from an elimination of useless parts and unnecessary duplications.

Among twenty-one quadrilles it was found that four embodied the best features of quadrilles in general as successfully as Model T had embodied the best features of the long line of family Fords that had preceded it. Accordingly, in the interest of simplifying the teaching of these dances and encouraging their popularity, seventeen quadrilles went by the board.

"What we are trying to do in getting out a book of dances," Ford explained to the Associated Press, "is to standardize them."

The problems of initial cost, low upkeep, and an expanding market had been thought through to a logical conclusion when the weasel popped at Dearborn.

§

The enthusiasm for old tunes, old orchestras, gavottes, and chorus jigs which swept through Dearborn in 1925 was only part of a larger enthusiasm for antiques in general which was giving a new twist to the Ford story in these years and writing a new set of headlines.

Out of a clear sky in midsummer, 1923, in the same month that his impromptu boom for President was at its height, Ford had purchased Wayside Inn. And his acquisition of this time-honoured landmark, which had sheltered Washington and Lafayette in its ancient days as Red Horse Tavern and given Longfellow the setting for his "Tales of a Wayside Inn," brought a corps of newspaper men to Dearborn to ask how an interest in historic landmarks could be reconciled with the theory, "History is bunk."

Ford's answer was to buy more landmarks; so many more that for some time thereafter the headlines were constantly in flux between new records of production of Ford motor cars and new acquisitions of moss-covered properties, down at the heels and out of luck, with little left save dignity and memories of a faint prosperity long before the days of moving belts. Modernist and ancient: Ford played both rôles. One morning found him salvaging tradition at Wayside Inn or Plymouth Rock, and next morning smashing it at River Rouge.

A few months after this first purchase it was announced, in December, 1923, that the Ford Motor Company had broken all records of its own and of all other automobile factories with

an output of 1,111,111 motor cars between June 18th and December 7th, and the next Ford news to reach the press was Ford's purchase of an aged Michigan schoolhouse with its windows gone, a leaky roof, and an old school bell whose ancient tongue was rusted to its mouth.

Six months later, in July, 1924, it was announced that the sales of Ford motor cars had crossed the million mark in the first six months of a calendar year, and on the following day Ford bought two houses in Rhode Island, known as the Sanford and Congdon houses, both dating back to the middle of the Seventeenth Century and built so long before the age of mass production that they had stood on the edge of the wilderness when Rhode Island itself was the frontier.

In February, 1926, while the headlines were still echoing with a new feat of the Ford Motor Company in running its production above two million cars in 1925, Ford purchased the blacksmith shop of Caleb Taft in Uxbridge, Massachusetts, built in 1787 and immortalized by Longfellow for three generations of school children as the identical spot where under a spreading chestnut tree the village smithy stood.

To these purchases Ford shortly added the historic Everett mansion in Charlestown, where Daniel Webster had been entertained on the

day he dedicated the monument at Bunker Hill, and the country school at Sterling, Massachusetts, where Mary's little lamb had frolicked when it followed her to school in one of the epic verses of the nation.

The Ford experiment was expanding. It could scarcely have surprised the American public in the years from 1924 to 1926 to learn that Ford had suddenly reclaimed the wreck of the *Hesperus* and refurbished the one-horse shay.

§

Production gathered speed at River Rouge. New records fell. And new treasures came to Dearborn. People had lived and worked in these early homes and schools and taverns, and the same dynamic interest that animated Ford's pursuit of landmarks carried him into a search for the goods these people left behind them. Over a wide front the press kept pace as best it could with his successive purchases.

Item 1: An old-fashioned apparatus once used for fighting fires in the historic town of Plymouth, consisting of a hand-drawn hose reel, a ladder truck, three ancient tubs and the bucket-engine *Niagara*.

Item 2: A hansom cab of the 1870's, originally imported from France, purchased by Ford from

W. J. Mulvihill of Cincinnati, and reputed to have carried many celebrities in its day, including Lillian Russell.

Item 3: A Rogers locomotive built in 1860 for the Atlantic & Gulf Railway with a pedigree dating back to service in the Civil War and the tall stack and narrow chest of the two locomotives that had faced each other on a ridge in Utah when the last spike was driven on the first transcontinental railway.

Item 4: A set of wooden water pipes made of logs ten feet in length, laid in 1797, and part of the first water-supply system built in the New England colonies.

Item 5: A hot-dog wagon on four wheels, period of 1895 to 1900, once operated by John M. Colquhoun of Detroit at the southern entrance of the City Hall.

Item 6: An early American suite of drawing-room furniture consisting of two sofas, two chairs, and a marble-topped table from the home of Abraham Lincoln.

Item 7: An 1850 boiler discovered in Bryan County, Georgia, originally used to furnish power for an old-time rice mill, made without flues and fired in its heyday with rice straw.

Item 8: An antique rowboat bought at Wellesley, Massachusetts, described by the Associated

Press as "badly warped and unseaworthy," purchase price, five dollars, and a set of violins valued in a New York art gallery at two hundred and fifty thousand.

Item 9: A set of drug-store furnishings of the late-Victorian Era, consisting of eight ointment jars, a mahogany medicine cabinet exhibited in 1893 at the World's Fair in Chicago, a wooden percolator holder, six window bottles, a machine for applying a coating of shellac to doctors' pills, and an iron mortar and pestle for making medicine for horses.

Item 10: Five stagecoaches which saw service on the snow-blown roads of New England at various periods dating from 1804 to 1859; one ox cart built in 1823 at Smithville Flats, New York; and the open carriage from which Big Tim Sullivan of Tammany Hall surveyed the Bowery behind two prancing horses in the 1890's.

Item 11: The tools and laboratory equipment of the workshop at Fort Myers, Florida, in which Thomas Edison developed a substitute for the carbon filament used in early electric light bulbs and perfected the modern incandescent lamp.

Item 12: A pre-Revolutionary loom for weaving scarfs, a set of Eighteenth Century sleigh

bells, a sawmill from Wexford County, Michigan, an 1860 tallyho, a Starlight stove, Model 25, with bowed legs and mica windows, and an antique reciprocating engine which Ford had spotted in a junk yard from the window of a moving train as he was passing through the town of Brookfield, Massachusetts.

Week after week the galleons returned to Dearborn richly laden: hoopskirts from the Alleghenies, Sandwich glass from Provincetown, cotton gins from the Old Dominion, hooked rugs, wheat flails, army boots, Conestoga wagons from the Mohawk Valley, grist mills, cider presses, and daguerreotype machines. With all its ingenuity the press could no more keep abreast of all these treasures than it could do full justice in a casual day-by-day report to the dynamic industry evolving in Ford's foundries. In one sense the process seemed complete.

Iron ore came down the Lakes to River Rouge. Steel hands that could lift twelve tons at a single grab dove down into the hulls of the ships that brought it, closed their fingers on this rich red earth and dragged it out to the blast furnaces. Hot metal poured from the cupolas into moulds in motion on an endless chain. New castings left the foundry on moving platforms bound for the assembly lines. New Fords came off the as-

sembly lines and charged pell-mell for open country. The filling stations multiplied. The countryside outgrew its ancient mills and taverns. Antiques cluttered the attics of old farmhouses abandoned for new California bungalows. And Ford vans came down the road to gather up old treasures and cart them back to Dearborn.

Ashes to ashes, dust to dust, and horsehair sofas to the home of mass production.

§

They made strange bedfellows in the news, these hoopskirts and moving belts, wheat flails and coking ovens, old pedigrees in ox carts and new records in coupés which shared the headlines in these years. Time after time a vast public would open its newspapers in the morning to stumble upon the announcement of some spectacular purchase made by Ford in Plymouth, Knoxville, Richmond, or Savannah. What did he do with all this stuff, and why was he so intent on buying it?

At least in the first days of these purchases the public might have been forgiven if it suspected some ulterior motive. For this was the same Ford, buying weather-beaten buckets and moss-covered looms, who converted straw into a sub-

stitute for rubber and used sawdust to help make artificial leather, and some new experiment might be in progress now. "Ford Buys Rice-Burning Boiler Made in 1850," the headlines would announce; and for a public that had watched Ford's methods for some years it required no great stretch of the imagination to foresee "Rice the Fuel of the Future."

Time passed, however; the purchases went on; and as the 1850 boilers and the 1870 hansom cabs developed no utility and performed no service, but remained mere objets d'art, the man in the street looked elsewhere for an explanation of this new adventure.

He read in an Associated Press dispatch that Ford's interest in antiques came from his interest in machinery. He read in the Sunday magazines that Ford, still believing history to be bunk, meant history as written and not history as lived and recorded in authentic relics of men's efforts. He read that the blacksmith shop of Caleb Taft might be moved across two counties to a more auspicious site, but that the building and its tools would remain precisely as the village smithy left them; that Mary's school would live again; that Wayside Inn had been faithfully restored—so faithfully, in fact, that when one of the descendants of the poet Longfellow observed

that the ballroom on the second floor seemed stout enough but lacked its old-time bounce, Ford promptly announced a plan of putting a car-spring in the top of each supporting pillar underneath the floor and covering the walls with panels that would slide.

Such evidence of Ford's interest in his treasures for themselves and not as a subtle aid to mass production carried its proof in course of time. Gradually the public stopped looking for an unknown motive. Old ointment jars and percolator holders were accepted as an inevitable part of the Ford story. And the public could even note, if it followed these successive purchases with close attention, a certain pattern which explained one reason why a modern master of production might find a special interest in heirlooms honeycombed with mould, old engines that had pulled no trains for fifty years, and conduits laid a hundred years before the first Ford clamoured for a drink of water.

For it was true of a great number of these acquisitions that they brought to Dearborn nothing other-worldly but something that reached directly back into Ford's own life and touched directly Ford's own interests.

The Michigan school with its rusty bell and broken windows was not merely a good example

of the American rural school of the 1870's: it was the school that Ford attended as a boy in the days of the Blue-Back Speller and McGuffey's Reader.

The Starlight stove, Model 25, with its four bowed legs and mica windows, was twin brother to the Starlight stove, Model 25, that sat on a small white dais of its own in the house that William Ford had built in 1861 for Mary Litogot.

The 1860 tallyho with its three wide seats and well-bent springs was the same brave tallyho that had carried the Dearborn band across-country to its concerts in the days when neighbourhoods were filled with friends and there were no gasoline buggies on the roads to scare the horses.

The motive power for the old sawmill that came to Dearborn from Wexford County, Michigan, was an engine built in a machine shop in Detroit where a boy of seventeen had found a job when he left his father's farm.

The hot-dog wagon on four wheels was the same genial omnibus at which a young mechanic in a world that had no speed laws came to eat his noonday meals and trace diagrams of piston rods on the counter with a pencil.

Wayside Inn, the spreading chestnut tree, treasures from Plymouth, Mary's lamb, Daniel

Webster, the dedication of the monument at Bunker Hill, came straight from the pages of a Dearborn schoolbook of the 1870's. "It's a small payment to Longfellow," Ford explained, when the reporters asked him why he lavished so much care on the restoration of an old-time tavern, "for four stanzas he wrote in the 'Psalm of Life'—the first, second, sixth, and ninth."

It was the old Dearborn that lived again in many of these time-worn treasures that came home to roost. It was the old Dearborn that lived again when the bright lights sparkled on the ballroom floor in a new Ford plant and the fiddlers struck up "Old Zip Coon," when the weasel popped in the home of mass production, "Weevily Wheat" made way for "Speed the Plough," and gentlemen pranced their ladies to the sprightly measures of a polka.

There had been a quiet road that led through this arsenal of coal and iron in 1876. The bright red siphons of the motor age had not yet come along to stake out claims. Farmhouses stood in their own stockades of barns and corn cribs. News trickled in of affairs in the West and the march of Custer's war on Sitting Bull. McGuffey, scorning science, ruled supreme in the rural schools. And a small boy on his father's farm hoed corn, built a home-made forge, and watched

the blacksmith shrink an iron tire onto a wagon wheel.

Dearborn lived in a world of its own, and this world seemed unchanging.

§

In the end it was the Motor Age that changed this picture. The old scene vanished. And a man who had helped destroy it by contributing ten million cars to a mighty stream of motors went about the country with a basket picking up the pieces.

No doubt there was a certain irony in this dual rôle. No doubt fate seemed to have played a prank with an iconoclast turned antiquarian. Yet what was true of Ford in the years from 1924 to 1926 was true in large measure of Ford's country. Having triumphantly established a new civilization, America was energetically rediscovering an old one. Having stored the household goods of its forefathers in the forgotten corners of a million attics as out of date and dilapidated, America was reappraising these same goods as the heritage of its younger days.

If hooked rugs and Sandwich glass interested Ford they likewise interested a large company of Americans. If it was worth while to rebuild Wayside Inn, put springs in the ballroom floor

to give it bounce, search out the old sconces that once held candlesticks against its prim white walls, and rebuild the old-fashioned kitchen precisely as it used to be save for the added convenience of a concealed electric stove, it was worth while to add to the ancient treasures of the Metropolitan Museum in New York an "American Wing" re-creating the setting of life as it was lived by an earlier generation of Americans. And if it was worth while to restore a bit of the old America in this fashion in New York it was promptly worth while to restore more bits in Boston, Providence, Chicago, Pittsburgh, and other cities scattered up and down the nation.

The very roads that were effective symbols of the triumph of the new led into constant rediscoveries of the old. Two miles to Ye Olde Fender Shoppe, a mile and a half to Sheraton Arms. On the broad highways that spanned the nation in a motor age the bright slogan of "Antiques" blazed from as many signboards as "Cross Crossings Cautiously" and "Free Crank Case Service." Third road to the right for The Old-Time Sampler. Cross the bridge and follow the trolley to Ye Pottle and Kettle. Spinning wheels sat on the roadside lawns with Terry clocks and settles. Comb-back chairs rocked comfortably beside rhubarb and fresh eggs.

The strident voice of the modernists might shout its protest to the heavens. Addressing its million readers the weekly, *Liberty*, might declare: "Grand Rapids turns out more artistic and beautiful furniture every day than Duncan Phyfe, Sheraton or any of those pioneer designers ever dreamed of." For an increasing number of Americans it spoke in vain. The vogue for pre-Grand Rapids furniture, or Grand Rapids reproductions of pre-Grand Rapids furniture, gathered pace.

A quarter of a million people flocked into the American Wing in its first eight months. Women's clubs that had devoted their winter's programmes to Stevenson in the South Sea Islands or Lenz on Auction Bridge went over to Bennington Pottery or the Romance of Godey Prints. Bean pots, glass castors, and china hens for holding breakfast eggs were brought home from auction sales in a whirl of triumph by the same ladies who had thrown them out of their houses thirty years before. Crossroads stores that sold crockery and silverware guaranteed to be the latest thing put in a line of antiques on the side.

"The craze for early American antiques of all sorts is sweeping the country," the New York Times declared in December, 1926, and added

with some cynicism, a few months later, "The demand for genuine American antiques is now so great that the shabbiest chair, if it be ugly enough and sufficiently worn, can be sold for a high price provided the purchaser finds it in its 'original' setting—i.e., in a farmhouse with hooked rugs on the floor and samplers on the wall."

Antiques took their place in the headlines of the daily papers as old treasures sold for fancy sums. Antiques blossomed out in the roto-gravure sections of the Sunday magazines. Antiques made their début in Congress as bills were introduced to put period furniture in the White House. The Administration itself took a hand in the pursuit of heirlooms, with the Bureau of Home Economics of the Department of Agriculture urging that at least one modest "early American room" be incorporated into every household.

Even the much scorned and hooted remnants of the mid-Victorian Era showed signs of a renaissance: a new market developing overnight for those early treasures that had gone west in the ox carts lumbering over the plains in the boyhood days of the modern captains of mass production—kerosene lamps and rosewood chairs, washstands with china pitchers and side

racks for holding towels, wrought-metal flower stands, melodeons, wax flowers under glass, and whisky flasks commemorating the completion of the B. & O.—“Success to the Railroad,” blown in amber—or “A little more grape, Captain Bragg,” in tribute to the immortal Zachary Taylor.

If these were gallant days for modern industry and mass production they were gallant days for pewter plates and walnut what-nots. Ford's interests did not stand alone. Nor was this combination of ten million motors and a warehouseful of heirlooms inappropriate to the times.

Ford merely looked over the shoulder of an America that had stopped for a moment in its headlong rush to thumb the pages of the album.

§

Perhaps one clue to this performance both in Ford's case and in the case of a large number of his countrymen lay in the very speed with which a new America had been rebuilt out of an old America within a single generation. What had happened in one Dearborn had happened in ten thousand others.

Steel, oil, and modern transportation had whisked these quiet villages out of their com-

fortable obscurity into the centre of a new world of triumphant factories and sprawling cities, a bustling modern world of high-speed output, standardization, rapid transit, steel construction, jazz bands, and streamer headlines. Without slowing down in its headlong pace or having its faith shaken in all that America was and all that it was in process of becoming, a nation travelling at top speed looked back for a moment at the point from which it started, as a man might turn from his seat in a hydroplane to look back at his hat.

Every famous episode and every famous controversy in the history of the American people was being brought to life in these same years, to be revaluated in a thousand books and magazines. Every famous statesman, every swashbuckling soldier and every eager prophet who had been a Titan in his time was suddenly dragged from the show cases of the old-fashioned histories into the bright limelight of new histories which peered into his soul through modern lenses.

Old myths were explored. Old stories were retold. The fountainheads of American history and culture were studiously examined for anything that would warrant reinterpretation. Books explaining America to Americans multiplied

upon the news-stands. Communities which had hitherto been living wholly in the brisk present or the rosy future suddenly became self-conscious about the past. Centennials, semicentennials, and sesquicentennials were celebrated up and down the country, with masques and pageants restoring the past for a comparison with the present. The popular art of the moving pictures swung into line as the most profitable box-office features suddenly became the production of "American epics," and Hollywood producers raced one another through successive million-dollar budgets in their haste to be the first to tell once more the story of the covered wagon, the pony express, the battle of Lexington, and Old Ironsides.

The processes set in motion in Ford's boyhood had built a new America. So thoroughly had they done their job that by this time a large part of America was looking back occasionally along its line of march, consciously or subconsciously measuring the new in terms of the old, evaluating this spectacular industrialism into which the swift rush of fifty years had carried it.

There was nothing untimely in Ford's search for the broken bits of his own past. The Starlight stove and the 1860 tallyho and the hot-dog wagon on four wheels came home to Dearborn

in the first days of a new period of American introspection.

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Under the rafters of a laboratory dedicated to the mass production of a motor car the dulcimers tinkled and the old frontier of hoopskirts came to life again. Under the heels of the galloping dancers slumbered the blueprints of new plans to fill the country road with racing Fords.

"Hands around the lady." . . . "Pop!" . . .
"Chassay by your partners." . . . "Pop!" . . .
"First couple down the outside, back again. . . .
Down the centre and back again. . . . Three
hands and a half around the lady." . . .

Old America and new America. . . . "Grand
right and left."



CHAPTER XIII

AMERICA ON WHEELS

IN FEBRUARY, 1926, in the same month that the spreading chestnut tree and the village blacksmith shop joined the Ford museum of antiques, the Ford company built the motor car that brought its total contribution to the mobile power of the world to three hundred million horsepower. Out on the broad macadam highways that lined a busy modern nation with gas tanks, roadside cafeterias and rooms for boarders, it had turned loose, to date, the potential power of ninety-eight Niagara Falls.

It was a gigantic enterprise that had evolved from Ford's experimental theory of a motor car "built for the multitude" in 1908. The net worth of this company stood at some six hundred and fifty million dollars in the first month of 1926. In eighty-eight plants scattered over the face of the earth from Yokohama to Buenos Aires and Trieste to Pernambuco, Ford cars were manufactured or assembled. More than a hundred and fifty thousand men and women

laboured in the vast labyrinth of the Ford industries. Two million cars came off the assembly lines each year. In the business of manufacturing a family motor the Ford company found itself involved in the business of mining lead, distilling wood, developing water power, building electric locomotives, operating butcher shops, growing flax, and rolling steel.

Every principle of production with which the manufacture of the first Model T had been embarked upon in 1908 had arrived by 1926 at a spectacular conclusion.

Thirty-five thousand machines at River Rouge and Highland Park displaced hand labour in the most intricate processes of manufacture, turned out parts for Ford cars so highly standardized that they could be used interchangeably on Ford assembly lines in Dallas or São Paulo, and tested their own work, when it needed testing, for inaccuracies of two ten-thousandths of an inch.

The tireless pursuit of new materials and new methods of fabricating materials had carried the Ford company on from its early experiments with vanadium steel through its experiments with machine-made glass to new experiments with casting aluminum in dies and using flax to manufacture artificial leather.

The principle of keeping production constantly

in motion had reached a point where the vast business of manufacturing two million motor cars a year could be managed on a schedule of ten days' supply of raw materials, routed through a dynamic industry with such precision that the Ford company neither owned nor used a single warehouse.

So fine had the process of manufacturing a motor car been drawn that by 1926 it was a matter of thirty-three hours from the time iron ore left the bottom of a Great Lakes freighter until a new Ford honked for clearance on the open road.

At eight o'clock on almost any Monday morning an ore boat docked at River Rouge. By noon on Tuesday it had turned its cargo over to the blast furnaces, and the ore was reduced to iron and cast in moulds. By midafternoon on the same day a motor was on its way to the assembly lines. And at a little before five, if the sale was prompt, the finished car was in the hands of its owner in Detroit, with a bucket of gasoline under its belt and its head turned toward open country.

Three hours later, if the proprietress of Ye Willow Inn on Michigan State Highway No. 21 looked sharp, she might have a chance to rent her best spare room for a night to a carload of happy

travellers off on a headlong cruise across the nation.

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It was a far cry from the first Ford plant in Mack Avenue with its antique tools and sixteen cars a week to this vast battery of plants that girdled the earth to turn out sixteen cars a minute, but the times had changed and the spectacular development of the Ford Motor Company was only part of the spectacular development that had carried the whole motor industry forward to new goals.

In 1908, when the Ford company rented a carpenter shop to build its first experimental car, the motor industry stood with its hat in its hand, begging capital of a business world convinced that the problem of road transportation had been adequately solved by the invention of the safety bicycle, and that the automobile was a rich man's toy or a good joke in the pages of the comic magazines. In 1926, when the Ford company produced eight thousand motor cars a day, the automobile was not only a necessity but a national institution and the motor industry commanded two billion dollars' capital of its own. Within the short period of two decades and a half the young industry for which the government could find no place in its census of 1900, on the

ground that it was "too indefinite" to be taken seriously, now took its place in the census of 1925 at the head of all industries in the United States, indisputably in first place, with an annual production valued at above three billion dollars.

It was a spectacular feat to have achieved within a quarter of a century, and its effect upon the business of the nation was profound. The automobile industry not only gave direct employment to three and a half million men and women; it made new jobs in other industries with its tireless demands for accessories and raw materials. By 1926 the business of fabricating motor cars ate up one ninth of all the copper produced in the United States, one eighth of the hardwood lumber, one seventh of the steel, one fourth of the aluminum, and more than half of all the leather.

This upstart industry paid seven hundred million dollars annually to the government in special motor taxes. It was the chief prop of a gigantic petroleum-refining industry which ranked fourth to its own unchallenged first. It converted into plain and fancy tires more than four fifths of the rubber imports of the nation. And it supplied the impetus for so vast an extension of paved-and-lettered highways up and down the nation that the people of the

United States now spent upon their roads each year more than twice the cost of the whole Federal government, battleships included, in the year the Ford company was founded.

Such figures as these were formidable. The relationships which they implied reached far into the texture of the nation's business life, re-wrote its economics, and reorganized the factors that determined its prosperity.

American industry could no more have dispensed with motor cars in 1926 than Gloucester could have dispensed with its fishing smacks a century before or New Bedford with its whalers.

§

The Motor Age was in full swing. Production figures set new records. And if the onrush of this new industry had profoundly altered the basis of the nation's economics it had substantially refashioned its interests, its enthusiasms, and its habits.

For the day had dawned in the United States when it was possible for any man with a small amount of ready cash, no great responsibilities to weigh him down, a will to own a motor car, and land enough to house it on, to find his way to his heart's desire without troubling twice to think about it.

Not only had the efficient processes of mass production brought down the cost of motor cars so substantially that the average price of an automobile built in 1926 was forty per cent. less in terms of the price of wheat than the average price ten years before; in addition, competition between the Ford company and its rivals had developed the field of the low-priced car intensively, a wide variety of models was available, and most of them could be bought on the installment plan. Moreover, back of the low-priced car on the installment plan, and still closer to the needs of the man with a slender budget, stood the inexhaustible Used Car Market which had become an American institution as characteristic of its times and as far-reaching in its influence as Wall Street, the Carnegie libraries, or the House of Representatives.

Four million cars in various stages of preservation, cars for the most part "traded in" by travellers who wanted something bigger or better or brighter or more powerful than the cars they had been driving, stood on the auction block in 1926. The business of placing these cars in the hands of eager owners who would drive them till their iron lungs wore out had become an enterprise second in importance only to the marketing of new cars themselves. Day by day the

Used Car Market spread its bargains in the advertising pages of every newspaper in the country. . . . Chevrolet 1923 Sedan, like new, driven less than a thousand miles. . . . Buick Master 6 Coupé. . . . Overland Touring 1922. . . . Jordan 1924 Blueboy, sacrifice, owner leaving town. . . . Five hundred dollars, four hundred dollars, two hundred and fifty, one hundred and fifty, fifty. . . . "Terms Arranged to Suit—Small Payment Down."

Four hundred and thirty-four years after the discovery of America by Columbus the day had dawned in the United States when it was possible for any American willing to deposit the reward of even one day's labour to become the temporary owner of a self-propelling vehicle capable of carrying him at least part way on an outbound voyage to inspect his world.

§

Million by million new motor cars came off the assembly lines of a hundred modern factories. A million and a half in 1921. Two million and a half in 1922. Three million and a half in 1923 and 1924. Four million in 1925 and 1926. Last year's pride became this year's trade-in, and the Used Car Market gathered new recruits. The pace of production was remorseless. By 1926 there were

twenty-two motor cars in the United States to every twenty-three families, and the advertisements were already proclaiming this A Two-Car Country.

Travel was cheap, the panorama endless. Seven cents a mile, according to the careful figures of the National Automobile Chamber of Commerce, covered the cost of an all-day's ramble in a light touring car, including not only gasoline, oil, and wear on tires, but insurance, depreciation, and interest on investment; and these imponderables did not enter into the calculations of the average traveller who packed his family into the tonneau for a roadside tour and ran off as far as his budget for the holiday would carry him. Sixteen million tourists, a seventh of the population of the country, visited the national forests in 1926 in motor cars. Fifteen hundred towns and cities established automobile camping parks along the open road. Two billion dollars' worth of gasoline and oil was sold by filling stations and repair shops to the swarm of motor cars that swept across the countryside like locusts.

The day had come, in fact, when, despite the expenditure of a billion dollars a year to build new roads and widen old ones, one of the major problems of a self-governing democracy was policing its highways, finding room to park its

motors, untangling its street-corner jams, heading off collisions, and averting as many as possible of the accidents that now killed twenty thousand people every year and injured a half million others.

The best efforts of an army of people went into an attempt to solve the problems of surplus traffic in an age of motors. The matter of left- and right-hand turns and the efficacy of "stagger systems," "boulevard stop systems," and "intersectional overpass systems" were debated by boards of aldermen and chambers of commerce in every city in the country. A Bureau of Street Traffic Research was established at Harvard University. The merchants of Detroit appealed to the City Council for three hundred towing cars to haul parked motors from the streets when they had overstayed their leave. The possibility that large cities might suffocate themselves with the carbon-monoxide fumes of their own motors became so real that it engaged the attention of the United States Public Health Service. And the situation steadily grew more complex as traffic became more snarled and parking places fewer, and the death rate from accidents mounted each year until more Americans had been killed by motors in nine years of peace than by cannon in two years of war.

For nothing slowed down the pace of this tireless avalanche of motor cars, new, old, and resurrected from the grave, that fought their way through city streets and packed the country roads. The day was gone when a motor tour was a great event, when father buttoned his duster to the chin before settling down at the steering rod and mother posted herself at the log book with as much solicitude for an historically accurate record of events as if this were the start of an airplane flight for Europe. In place of that, the motor tour had become as casual as a walk to the street corner, a mere incident in an average day's routine.

Over the winding country roads, up and down the well-protected hills, lighted on their way through city streets by signal lights that winked their warnings at all hours of the day and night, coursed twenty million motor cars. The traffic lines were endless. "It will not surprise me much," wrote a British observer, Douglas Woodruff, surveying the scene in his *Plato's American Republic*, "if the private home is abolished in America to give place to the residential car so that the American soul may find a final happiness, and men may be born in cars and live and wed and die in them, and be cremated in the engine, without ever having to put a foot on the ground."

"And so will arise a new race to take the place of the centaurs of old. For, as the centaurs were half men and half horse, so will these be half men and half motor cars."

§

It was a tireless pursuit, this endless motor cruising of a nation. No doubt the travellers who embarked on it returned more times than not with empty hands. But one result of their activity was unmistakable. In effect, if not in purpose, this was more than a mere ramble. It was the recolonization of the country. The pace of travel might be swift. No settlers might be left along the open road. The jolly picnic party from Bridgeport or Urbana might be content to reëmbark in its new coupé when it had uprooted a few trees to build a fire, trampled down a half acre of wheat in its effort to find a comfortable stone on which to seat Aunt Bessie, and scattered its ginger-ale bottles and its paper napkins as far and as wide as possible. Nevertheless, the net result of this endless touring was the levelling of barriers and the last phase in the obliteration of the old frontiers.

For there was no withstanding this tempestuous onrush of a stream of travel in a nation which

now owned, in 1926, more motor cars than it owned dwelling places. Only those communities that lay barricaded behind mountain crags or cranberry bogs, protected by roads that were impassable even for the modern motor car, could hold out against the avalanche; and one by one these few lost coves surrendered.

"The opening of a thirty-two mile hard-surfaced highway from Pineville to Harlan, Kentucky," said a dispatch to the New York Times, reporting one of the last capitulations, "has made it possible for eighty thousand inhabitants of the Kentucky mountain country to come into contact with modern urban civilization." Hitherto "the almost inaccessible nature of the region," with the risk of travel on dirt roads, had kept these country people in their hills. Now, thanks to macadam, they might come down in safety. "For many of the mountain folk," the Times reported, "this will mean their first glimpse of a locomotive, of a street car, of a movie or even of an electric lamp. . . . Two years ago an automobile was a rare sight in the region. In the few months while the new road was being built four thousand automobiles were bought and many thousands of orders were placed in expectation of the completion of the highway."

A stream of traffic headed north. The filling stations climbed the hills. Tydol marched with Veedol up this new macadam road. Balloon tires, four-wheel brakes, and the merits of sixes compared with eights took their place in the folklore of the Pine Mountains. One more isolated province that had held out against the centripetal force of the Motor Age went under.

Year by year since the annual production of automobiles in the United States first mounted [above a hundred thousand cars in 1909 a remorseless urban civilization had been marching on to new frontiers. Year by year the cities pushed their smokestacks farther into the countryside as the conveniences of motor travel widened the orbit of suburban life. Year by year new interests and enthusiasms were carted up and down the country.

This was an America in which no traveller from East or West could lose his own home town, however far he rambled. For the rubber wheels of the Motor Age had ironed out the traits that once distinguished one community from another. Titusville was only a lap behind Broadway. And the prophecies inherent in the first low-priced motor cars that took to the roads in 1908 had been fulfilled.

§

Styles changed. New gadgets made their way along the country roads. One year it was ethyl gasoline that set the filling stations talking. Next year it was hydraulic brakes or chromium as a material for radiator caps that kept their polish. New fashions in headlights, new fashions in windshield wipers, new fashions in rumble seats, new fashions in high frequency horns, low frequency horns and thermal heat controls followed one another into favour as rapidly as new fashions in entertainment, food, and clothes. It was more accurate to say of the Motor Age not that it spread the same successful culture across the nation but that it spread successive layers.

For the Motor Age was itself the product of forces working tirelessly for new fashions and for constant change. Modern industrialism had increased the income of millions of Americans and given them more leeway to experiment with luxuries and fads. It had shortened the average workday and given more people leisure time. It had regimented life into hours for work and hours ostensibly for play, geared the efforts of whole cities to a factory routine or an office routine and inevitably created a demand for new

diversions and new enthusiasms—a road to tour or a dial to spin or a game to play or a show to see—to take up the slack when work was over.

Meantime the triumph of the same high-speed efficiency which produced Ford cars made possible the cheap reproduction of whatever happened to be the fashion of the moment. The vast battery of machines for moulding public opinion that were by-products of industrialism—the modern press, the moving picture, and the radio—not only encouraged people in widely scattered sections of the country to think alike and share the same enthusiasms but to change their tastes from day to day. The same modern motor-driven transportation that enabled farmers from the countryside to march in on the capital of Tuscarawas County on a Saturday night to bear off the latest thing in styles, enabled them to march in on the succeeding Saturday night to bear off something later still.

The stage was set in this America for a rapid flux in fads and interests, and a rapid flux in fads and interests was the inevitable goal of the great machine of modern industry itself. For with competition keen, with overproduction a constant menace, with a relentless demand for reducing costs and with cost-reduction usually dependent upon quantity output, the great machine

had to cultivate new tastes and develop new fashions in order to unload its goods.

This it did to the tune of a billion dollars' worth of advertising launched at the American public every year in an effort to create new styles, shorten the period between them as they came along, make people who were behind-times feel uncomfortable and out of date, train the public to want new things before it had used up old ones and develop the average man's desires until they far outreached his needs.

The whole vast force of modern business enterprise was directed toward developing and expanding the natural yearning for change and novelty inherent in the set-up of the Motor Age.

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The result, judged by any standard, was impressive. Out of the vast and apparently bottomless cornucopia that was America in 1926 poured an endless stream of innovations. So rapidly were fashions changing, so regularly were new fads arriving, and so distracted was the modern merchant, trying to keep pace with his supply on one end and his market on the other, that trade conventions spent hours deliberating what was now in style, and courses in fashion

changes made their appearance in the curriculums of training schools and colleges.

Radio sets went Florentine one year, only to go Louis Quinze the next and Jacobean twelve months later. Styles in furniture, styles in diets, styles in wall paper and styles in floor coverings varied with the seasons. New cigarettes, new shaving creams, and new laundry soaps appeared from nowhere, covered the billboards with their claims, and wrote their virtues in airplane smoke against the heavens. Zipper galoshes, lizard-skin shoes, Russian boots, and Helen Wills eyeshades scored new triumphs in the market. Colour made its appearance as the handmaid of industry. Linoleum dropped its prim triangles for the rich lustre of a Turkish rug. Bed linens went all colours of the rainbow. Scorning the colour-blind conservative who had been satisfied all these years with what it described as "hospital white," the Lady Pepperell Company began advertising sheets in orchid, maize and Nile. . . . "Let's say orchid bed-linen on a burgundy bed, with pink-shade bedside lamps splashing colour on new roses."

Meantime motor cars themselves had fallen into line, for the invention of pyroxylin finishes had changed the raiment of the fashionable car from dark blue or black to hues as delicate as

the pale tint of an Easter egg or as ruddy as a sunset. "The tendency toward a more varied colour-scheme was apparent in 1925," the New York Times observed, "but with the beginning of 1926 the trend toward colour was seen to be a stampede."

Fifty new shades for automobile bodies made their début at the Motor Show in 1926. Florentine cream and Versailles violet decorated models which had borrowed their styles from the best architecture of the ages. "One car at the new show," the Times reported, "is expressive of the Georgian era, painted Wedgwood green with white striping. Similarly, the Chinese influence is carried out in a four-passenger coupé, the Egyptian in a two-window berlin, the Roman in a convertible club roadster finished in red with gold striping and the Gothic in a seven-passenger limousine."

Style set the pace for American production, and from Egypt and the Greeks to Moscow and modern art every possibility was explored for ideas that would start new fads or set new fashions. Committees on style took their place with committees on sales methods and production costs in great industrial establishments like the General Electric. Experts on style in the Bureau of Standards of the Federal government

compiled data on the changing modes, reported that America was arriving at "a broader appreciation of art and beauty," and declared that a new "artistic touch" was developing even in the most humdrum products. Household goods that had been traditionally commonplace for generations blossomed out as objets d'art. Dishpans suddenly appeared in mauves and yellows. Furnaces developed their own standards of style as the advertisements proclaimed that "The cellar has a future." Bathrooms went Renaissance and Pompeian, with ornamental basins, mirrored tubs, and inlaid tiles to match the colour of the walls.

By 1926 the day had arrived when the head of one of the great advertising agencies in New York could declare with conviction, and more than a little evidence that he was right: "Open plumbing has become one of the fine arts in America."

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No doubt it was a kaleidoscopic nation that appeared upon the scene in these years in the full flower of the Motor Age. Economists used up stacks of paper debating whether this pyramiding of style on style and fad on fad was good or bad, whether it was social-minded, whether it could last. Historians writing the record of the

times fell back on footnotes to explain the changes that had overtaken their story on its way to print. Philosophers saw in this tireless activity the bright dawn of a future well worth having, or shook their heads over a nation as hare-brained and empty headed as this nation proved itself to be. In the copious memoranda of visiting statesmen and scholars the list of American peculiarities lengthened steadily. America, these tourists found, had no poise. It had no caution. It had no patience, no tranquillity, no self-restraint, and no perspective on the world's affairs. And if the sum total was not so bad as this, if some hope was justified and America had its redeeming features, at least it was agreed by both the critics and the champions of American culture that this was a land of ceaseless change, a million hobbies and a perpetual chase of what was new in fashion.

The landmarks of this America of 1926 had changed. The scene was new. But a short squat motor car, a plain and none too handsome Model T, had held its own against a tide of innovations. For eighteen years this motor car had been a national institution. Tenaciously, through fifteen million reproductions, it had clung to the body and the soul with which the hand of a pioneer had fashioned it. Its old-style transmission sys-

tem, its antique lines, and the sombre black of its metal hide stood fast in a day of modern fashions and a land of sudden change.

And even Model T was shortly due to vanish from the earth.



CHAPTER XIV

THE MYSTERIOUS STRANGER

IT WAS the changing pace of American enthusiasms and the ability of the American people to humour these enthusiasms that tolled the knell of Model T. The Fifteen Millionth Ford had come from the assembly line in the spring of 1927 as eager to please and as ready to patrol the open road as any of its predecessors, but the parade was slowing down. The torrent of Model T's no longer coursed out of the Ford factories at the same mad pace, and for the first time in its astonishing career the Ford company broke no records.

Production lagged at River Rouge. The gigantic schedule which had stood at nearly two million cars a year, year after year in 1923 and 1924 and 1925, dropped sharply off in 1926. A slow summer was followed by an even slower fall. Worse lay ahead. If it was blasphemy to speak of a shutdown here on the altar of mass production, the fact remains that a shutdown of formidable proportions had overtaken the Ford indus-

tries by Christmas, 1926. "Some two hundred thousand men are out of work pending the day that Henry Ford resumes," said a dispatch to the New York Times on Christmas Day. "The shadow of the man in some ways falls farther than the shadow of the city."

A new day had arrived in mass production, and the problem was larger than the immediate problem of Ford's competition with his rival, General Motors. For General Motors was merely the drama of new forces at work in a mechanical age which had first done its best to snuff out individuality in production in order to achieve spectacular efficiency and then appealed once more to individuality in order to develop a market wide enough to keep this efficiency working at top speed.

Model T had held its own for eighteen years in a world of rapid change. But modern industry had worked wonders for other men as well as Ford by 1926. Price margins were steadily narrowing. And if a little less than four hundred dollars would buy a family Ford in the fall of 1926, a little more than six hundred would buy a more luxurious coach with four-wheel brakes, a standard gear-shift, a guaranteed speed of fifty-five miles an hour, and a cut so swagger that "if you stood in front of it," the advertise-

ments said, "you could imagine yourself on the boulevards of France."

Style was a new virtue in a low-priced car. It cost less each season. And the tremendous gains being made by a host of inexpensive models was proof that the new emphasis on "colour," "line," and "beauty," no less than the more powerful motors now made available at only slightly higher cost by the same mass production methods, had created tastes and established standards that could no longer be satisfied by an old-fashioned car, however faithful, with the lines of a kitchen pump, a transmission system out of date, no grace, no style, no less than fifteen million reproductions on the road, and no more individuality than a carpet tack.

There had been rumours as far back as the early months of 1926 that the Ford company would take note of a changing situation and attempt to readjust itself to a new phase in mass production by some drastic change in policy. Time after time these rumours had been denied. Even as late as February, 1927, it was asserted in Ford's behalf that if there was "a crisis in the low-priced car market, it was one in which the Ford company is least involved"; that "it is an absolute policy that no change may be made which cannot be incorporated into any existing car";

and that "no drastic change of any kind is contemplated."

Three months later the news broke suddenly. Out of a clear sky, when rumours were quiet for a moment, the Ford company announced that it would reorganize its plants for a vast experiment in the production of a new motor car which was still on paper.

One day later the Fifteen Millionth Model T came off the assembly line at River Rouge, but no brass bands played the national anthem, no symphonies were composed, and no press association bulletins rushed the news across the country.

For Model T was an antique now, the times had passed it by, and this was *Götterdämmerung* for the high-hearted little box of tin that had held its own on the open road since the dawn of an age of motors.

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The problem of reorganizing the Ford industries for this new adventure was the same type of problem that would have confronted the engineers of Cheops if they had been told, about halfway to the top of the Great Pyramid, that their idea was right, their conception sound, and their progress remarkable, but that the first twenty tiers of stone at the bottom of the pile

were in the wrong position. There would have been nothing to do in these circumstances but remove the stones on top, pile them on the edge of the Nile, and go back to start afresh.

A fate of the same sort had now overtaken the Ford industries, which in their own time had turned out twice the dead weight of the Great Pyramid in finished motor cars. For before the Ford company could pile millions of new Model A's on top of millions of old Model T's it had first to rebuild the vast battery of forty thousand highly specialized machines that stood at the bottom of its pyramid of production.

These machines were the product of years of experiment and research. They were prodigiously efficient. They had set new records in production. Yet however remarkable their feats in producing parts for Model T, it was their misfortune that a vast number of them were capable of producing nothing else. Standardization, minute division of labour and a systematic co-ordination of operations had been carried so far in a plant that had produced one model and only one model for eighteen years that even a slight change in the production of an old-time Ford, a new method of making a lamp bracket or a connecting rod, had been undertaken only at enormous cost. Now, to build a new Ford wholly un-

like all other Fords, from the wire spokes of its jaunty wheels up through its engine to the automatic towel that wiped its windshield face, it was necessary to start the whole process of manufacturing afresh, go back to the fundamentals of production, and design new machines to make other machines in turn to make new parts.

It was no task to be undertaken without reckoning its cost or its revolutionary effect upon the whole Ford industries. It meant wielding an ax to a finely timed and balanced mechanism which had reached the peak of its efficiency only within the last few years. It meant scrapping ten thousand machines which had been perfected gradually during a whole generation of the Motor Age and rebuilding twenty thousand others. It meant reorganizing Ford plants in Santiago and Bordeaux as well as River Rouge and Highland Park. It meant an intricate readjustment of the whole Ford system of conveyors and assembly lines to a new sequence of production. And it meant wild-eyed speculation in the press as to whether the total cost of this adventure, "lost profit" included, would run above one hundred or two hundred million dollars.

Time after time the small car that was the object of these mighty efforts was torn apart, rebuilt, and torn apart again. Time after time new

parts for its light body came from the foundries to be hammered, twisted, gouged and mauled by a corps of workmen commissioned to make them prove their mettle. Time after time a staff of two hundred engineers faced the task of perfecting overnight new machinery which only a few weeks earlier it had not yet succeeded in inventing.

This was a mightier hammering and pounding than had spoiled the night for the neighbours in the days when the seat of Ford's production was a brick barn in Bagley Avenue, but the objective was the same.

For this was still a search for a car that would carry a nation on its shoulders.

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It was a formidable task, this going back to start afresh, and the size of the effort showed itself in the long wait before production started. It was on May 25th that plans for the new car had been announced, and it was not until six months later that the new car was on the street. Meantime the public panted.

For it was impossible to ring down the curtain on an American landmark as familiar as Model T, go to all these elaborate preparations and this vast expense, and not set people wondering what the result would be. This was no mere change

of one season's fad or another's fashion. For eighteen years the American people had lived with Model T, travelled the open roads with Model T, rated their neighbours' wealth in terms of Model T, and cited Model T as the proverbial example of the good and bad that overtakes a nation in an age of mass production.

Now came an end to Model T, and inevitably any news of Model T's successor was telegraphed across the nation. A new Ford car was being built, and an army of reporters camped on the heels of the adventure, picking up what tips they could out of the vast regeneration under way at River Rouge and keeping the public up to date with the latest information, whether "official," "semi-official," or "inspired in official circles."

In rapid succession dispatches to the New York Times reported that the new car was "to be a cross between the Lincoln and Ford"; that it was to be called "the Linford"; that it was not to be called "the Linford," but was to be called "the Edison"; that new name plates, in any case, were either being manufactured in Columbus, Ohio, or else "being secretly turned out at an unknown plant an unknown distance from Detroit"; that the new car would have a 35-horsepower motor; that reports concerning the horsepower of the motor were apparently gleaned

from papers stolen from an advertising agency in Philadelphia; that whatever the horsepower of the motor an automobile dealer in Brooklyn, with his shop at 90 Montrose Avenue, had at least "learned something of the new car through a telegram from his brother Henry."

Interest ran high. Fresh rumours followed one another through the headlines. On August 2d the public read that the new car was an accomplished fact, that Ford himself was "daily testing it out on the roads adjoining the Dearborn laboratory," that it would go like the wind but that its appearance was still a mystery, since Ford had taken pains to hide it under the body of a Model T.

A few weeks later the body of the Model T dropped off, and the country read that "almost daily a strange looking small-type car might be seen on the highways of Wayne County," driven by some emissary of the Ford company. But before the details of this discovery could be communicated to the public the edge of its interest was taken off by an official statement that while this was unquestionably "a" new Ford it was by no means "the" new Ford, still travelling incognito.

"The" new Ford, however, promptly appeared in the headlines three days later, when another

official statement announced that it had actually been seen and been inspected. It had been seen, however, only by officials of the Ford company, and inspected only "in the semi-privacy of the final assembly building, the doors of which were carefully guarded." Once more the new car was being "driven regularly by Mr. Ford," but only "behind high fences."

High fences, however, were no permanent bar to an enterprising press. The public wanted news, and there were ways of cheating fate. Accordingly, with a flourish of trumpets a few days later the New York Evening Post published what it declared to be "the first pictures of the new Ford car," snapped, so a footnote said, on one of the days when this shy creature had come out for a moment from behind its barricade, ridden out on the country roads, and been caught with a camera by the bright-eyed editor of the Brighton (Michigan) Weekly Argus.

Day after day new pictures appeared, each claiming authenticity, as more cameras clicked on the roads of Michigan. Day after day the press association wires ticked off the latest news of the newest rumours making the rounds of Dearborn and Detroit. Day after day a vast modern publicity machine whose energy and resourcefulness would have astounded P. T.

Barnum trumpeted its fresh discoveries up and down the nation.

The hammering went on at River Rouge. The old machines came out. Slowly the business of rebuilding the Ford industries made progress. The day arrived when the wheels began to turn again, and December 2d could be set for the dénouement of this new adventure.

On December 1st the Ford Motor Company began a five-day series of full-page advertisements in two thousand daily newspapers for which it paid \$1,300,000.

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It had been a long wait from May until December, the new Ford car was still so complete a mystery that it was shipped to its showrooms stitched in a canvas bag, but in the end the fireworks were worth the wait. If the city of New York, at the gateway of the nation, had turned out royally for visiting princes and home-coming airmen, if time after time the streets had been lined with an eager crowd and the sky had rained torn paper, no more gallant reception ever awaited a celebrity from overseas than now awaited the mysterious stranger come to claim the throne of Model T. "Henry Ford invited the public in to see his new car yesterday," said the

New York Sun on December 3d. "It was exactly as if Mr. Mellon had thrown open the doors of the sub-Treasury and invited the public in to help him count the gold reserve."

One million people, according to the Herald Tribune's estimate, stormed the Ford company's showrooms to see the new car on the first day of its showing. At three o'clock in the morning a crowd had already gathered outside of Ford headquarters at 1710 Broadway, and by nine o'clock street traffic was jammed and the police had requested employees of the company to stop answering questions. The whole town had come to call. "Excitement could hardly have been greater," the New York World reported, "had Pah-wah, the sacred white elephant of Burma, elected to sit for seven days on the flagpole of the Woolworth Building."

So inadequate was any existing showroom for the purpose of housing this vast throng that by midafternoon the local manager of the Ford company hired Madison Square Garden. He would have done better, the World suggested, to hire the Yankee Stadium. Barricades had to be thrown up in front of various Ford agencies to keep people from pushing through the glass. Motor busses bringing sightseers arrived from the Catskill Mountains and the tip end of Long

Island. With concrete evidence in hand that Ford was back in the market as a purchaser of steel and copper, the Stock Exchange went on a rampage in what the Times described as a "Henry Ford market."

Meantime the rest of the country outside of New York shared in the day's excitement. One hundred thousand people flocked into the show-rooms of the Ford company in Detroit. Mounted police were called out to patrol the crowds in Cleveland. In Kansas City so great a mob stormed Convention Hall that platforms had to be built to lift the new car up high enough for anyone to see it. In New Haven the mayor presided at the unveiling ceremonies. From Denver came a dispatch to the eastern newspapers reporting that schoolchildren had been taken by their teachers to see the new model and that the city as a whole had "shown greater excitement only at the time of the famous robbery of the Mint." And from Dallas and Toledo, Palo Alto and Dubuque, came evidence that the Ford company had managed to keep its mystery to itself and succeeded in astonishing its public.

For this new car that made its *début* in December, 1927, was as abruptly unlike the old Model T as the new America of traffic lights and parking rules and modern styles was unlike the

old frontier. The angularity of its lines had disappeared. Its rakish hood had gone over to the modern cult of beauty. The advertisements proclaimed of it not only that it was sound in limb and body, but that it was a "smart" car, with "a bit of the European touch in its coachwork and its contour."

This was a far cry from Model T, which scorned "smartness," had no use for a touch of Europe and was not sufficiently self-conscious even to know that it had a contour. But the new day had dawned in mass production. "Beauty of line," Ford admitted in his first advertisement of this car, "has come to be considered, and I think rightly, a necessity in a motor car to-day." The time had come to revoke the famous order of 1909, "Any customer can have a car painted any colour he wants so long as it is black," and spread out before the customer instead a lively choice between such modish colours as Niagara Blue, Dawn Gray, and Arabian Sand.

Style had come to River Rouge. Model T went down in a riot of new colours. And for some time no public question seemed more worth discussing than Model T's successor. Economists debated the significance of Ford's surrender of his old whole-hearted emphasis on mere utility. Editors discussed the "Ford-mindedness" of

a nation which, partly out of habit, had filed four hundred thousand orders before December 1st for a new Ford car which it had never seen. More hundreds of thousands of orders piled up at River Rouge. The waiting list stretched out. To be the first owner of a new Ford in Hartford or Topeka became an honour as distinct as being elected member of an exclusive club.

The whole nation talked new Fords, did its best to buy new Fords, and debated the merits of new Fords with the same fresh enthusiasm with which it had once debated the merits of Ford's five-dollar wage or thought up jibes at Model T.

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Judged by its importance in the universe at large the new Ford car, no doubt, received a disproportionate share of the nation's interest for some weeks. There were good reasons, none the less, for the excitement it aroused.

For nearly twenty years the old Ford car that disappeared in this enormous shuffle had been one of the most American things about America, an inalienable part of the landscape in every corner of the country. Its narrow wheels had furrowed a thousand sandy roads in the days before macadam highways swept across the nation. The clank of its limp fenders as it hit a

bump and the bleat of its high-voiced horn were indistinguishably part of the night in every village in the country. The unchanging lines of its squat hood and cramped tonneau were links for thousands of Americans with the first venture-some days of roadside tours that followed the turn of the century. No new car could come along to blur these memories and destroy the first log cabin of the Motor Age without exciting some commotion.

Moreover, there was an inevitable curiosity about the new car for its own sake. There was the direct personal interest lent by the fact that if the new car ran to as many millions as the old one, one American family in every two was ultimately destined by the law of averages and the hand of fate to own one. There was the obvious fact that the prosperity of the Ford industries was a factor in the prosperity of the nation and that even the temporary shutdown of a vast workshop which had consumed four billion dollars' worth of raw materials to build its Model T and paid two billion dollars in wages was serious business for the country. Back of all this, however, there was the drama of this situation as it involved that legendary figure—Ford.

For here was a man who had suddenly seen the bright lights of his unchallenged leadership wink

out on him, and the faith of this man in his own leadership had been proverbial.

For thirteen years, while his neighbours had laughed at him and his friends had told him he was a fool to waste his time on a mad idea, he had stuck stubbornly to the notion that he could build a serviceable gas engine out of cast-off iron and make it the power unit of a low-priced motor car.

For ten years after he had proved this fact to his own satisfaction by building a gas engine and mounting it on wheels, he had found no market for his theory, no disposition on the public's part to regard a motor car as anything more than a new toy, no willingness on the part of men with capital to agree with him that a successful means of rapid transportation had been invented for a transportation-hungry nation.

For five years after he had finally managed to organize a motor company on a shoe-string so slender that no prudent actuary would have given it six months' life or one chance in fifty of declaring its first dividend, he had fought with a majority of his partners over his demand for remorseless standardization on a single pattern.

And for eighteen years after he had obtained control of this adventure and struck off his single pattern, he had driven steadfastly ahead at the

same original idea of a low-priced "universal" car, tirelessly challenging the precedents of established methods of manufacture, tirelessly perfecting the processes of his resourceful engines, tirelessly asserting his faith in the theory that provided he ploughed back into this industry his enormous profits and reduced the price of his product year by year, the market for the car that he had built was inexhaustible. "We never make an improvement that renders any previous model obsolete. . . . We want to construct some kind of a machine that will last forever."

It is true that one of the by-products of this experiment had been to amass for Ford gigantic wealth. It is true that no man who had contributed fifteen million automobiles to the string of motors in a Motor Age could fail to leave his imprint on his generation and that by all the standards of his time he had been highly paid and amply honoured. Nevertheless, the giant machines that had been the pride of a modern age of mass production came out of the Ford factories, now, to be broken up as junk. The theory of an inexhaustible market for the car that Ford had built for eighteen years went overboard. The finely timed and balanced mechanism of the Ford industries was wrenched loose and torn apart.

It could not fail to touch the imagination of the country that well toward the close of an active life and at an age when most men of wealth lay down their work Ford was not only ready to go on working but ready to turn back, rebuild his plant, and start all over. It could not fail to strike a responsive chord somewhere in the heart of a nation with high faith in its own resiliency to see resiliency put to the test in a grand gesture.

It had been forty years, in 1927, since Ford had built his first gas motor. The time had come to build another. The time had come, if one formula would not work, to try a new one and to wreck an industry in order to rebuild it.

Once more the search began for a car "built for the multitude." Once more the public looked toward River Rouge to see if the trick that had been turned so many times before, with the odds against it, could be turned again. Once more, for all his wealth and the years that lay behind him, Ford was on the firing line, with his prestige at stake and his energy pledged to a vast gamble with the future.

"Sixty-four to-day," Ford told the reporters in July, 1927, "and the biggest job of my life ahead of me."



CHAPTER XV

LINCOLN HIGHWAY

DIAGONALLY south across the low New Jersey hills until it turns west at Philadelphia runs a broad fast road that shows no sign of stopping as the miles unfurl. Sirens blare along this road. A mighty stream of motors travels it. Signboards line its flanks with flaming advertisements. The bright lights of the filling stations keep it company long after dark. And when it has reached Philadelphia, left that city in its wake, climbed the Allegheny Mountains, cut west across the ample plains, and followed the river valleys into the foothills of the Rockies, it drops at last over the High Sierras into the lap of the Pacific Ocean.

This is a new road, so freshly built that some of its macadam links still show in broken lines on the pages of the pocket road maps, but there is history behind it. Sixty miles from New York it crosses the Delaware on a parallel line with Washington's raid in 1776 when he ferried a frozen army into Trenton to trap a thousand

Hessian troops on Christmas night. It crosses the Schuylkill within two miles of the Liberty Bell in Independence Hall, skirts Valley Forge and Brandywine, hurries on through Lancaster, where the State of Pennsylvania made peace with the Iroquois on the eve of Pontiac's Conspiracy, turns in at York, where the Continental Congress sat in a county courthouse after it was driven out of Philadelphia, and cuts across the battlefield of Gettysburg, with Culp's Hill and Big Round Top within headlight distance on the south and a battery of hot-dog stands and Socony siphons standing guard along the same low ridge where Longstreet's troops deployed into action from the north.

This is a highway up to its mud-guards in the traditions of America. It crosses a countryside hard fought for in the Civil War, travels the line of march of the Federal troops dispatched to suppress the Whisky Rebellion in 1794, skirts Fort Braddock, pays its respects to the site of Fort Duquesne and strikes out across the Ohio plains where the sons of New England squires trundled their goods in Conestoga wagons in the first days of a westward march.

It explores the country of La Salle, with roadside arrows shot from ambush at every unexpected curve to guide the way, threads a tortuous

path through the brick mazes of Chicago, crosses the Mississippi at a spot where the Iowa Land Company founded the greatest sawmill city on the River six years before the Civil War, brushes its way through Omaha, and then follows a broad valley into Kearney, across the Platte from old "Adobe Town," rendezvous of half the gallant rogues and honest stragglers who swept suddenly across the plains in '49 in a scramble for new gold.

Over the trail of the prairie schooners, northwest out of Kearney, the same macadam highway leads up into mountain country where the pony express still carried the mails when the West was frontier country and the East had just discovered oil and begun to experiment with steel. . . . Cheyenne, with its Main Street flush on Lincoln Highway and the rectangularity of its city blocks the gift of the same methodical engineers who spanned the nation in 1869 with its first transcontinental railway. . . . Laramie, Medicine Bow and Rawlins, with a detour to the right for the Little Bighorn valley where Custer stumbled into the arms of Sitting Bull. . . . Salt Lake Desert, lined first with the bleaching bones of pioneers and then with the white rims of cast-off tires. . . . Carson City, settled in 1851, at its crest in the early '60's, and still thick with mem-

ories of the fabulous days when Virginia City was one of the wonders of the world and the prodigious captains of local industry studded their homes with door-knobs made of solid silver. . . . Placerville and El Dorado, with Coloma six miles north, the first spot where an astonished pioneer struck gold in California. . . . Then Sacramento and the Straits of Carquinez. . . . And finally San Francisco, a Spanish fort in the year the American colonies declared their independence, a gold-rush town in the 1850's and a metropolis in 1929, at the end of the long trail that began three thousand miles to the east, in the low hills of New Jersey.

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It is a long road, rich in the traditions of America and freighted with the memories of pioneers. Postcards commemorating its battlefields and ancient forts are sold with orangeade and chocolate almond bars over the slippery counters of a thousand filling stations. Custer and Pontiac, Marquette and William Penn live once more in the billboard histories of the rubber-tire manufacturers. On the spot where Pickett gave the order to his Virginia troops to storm Cemetery Hill, tourists halt to eat tongue sandwiches and snap one another's pictures. Yet for

all its memories, its legends and traditions, its faded flags, its treasures in glass boxes, and its faint echoes of spiked cannon, this is no longer the road of Gettysburg and Fort Duquesne, of Sitting Bull and Brigham Young, of the land-hungry pilgrims who crossed the plains in search of homes and the Vigilantes who enforced the law with twelve feet of rope in the untamed streets of frontier towns. It is the highway of a modern nation.

The very length of this mighty road, with its first signpost in one sea and the last of its speedometer readings in the other, is proof of the unity that a migratory people have achieved in an age of motor travel. The same broad band of stripes on every pole that carries wires from the Hudson River to the California Coast, the same successful brands of gasoline and non-skid cords on sale at first-aid stations fifteen hundred miles apart, and the same souvenirs of a Sunday tour brought home in the same makes of motor cars wrapped up in newspapers printing the same hot-from-the-griddle news at the same hour of the day in Hoboken and Cheyenne, are mute testimonials to the end of an old-time isolation and the disappearance of the last frontier. The wealth and power of a new industrialism are the sinews of this highway. For this is the same road,

the road of the gold rush and the prairie schooner, that links the textile towns of New Jersey with New York and Philadelphia, Philadelphia with the coalfields of the Allegheny Mountains, the Alleghenies with the giant mills and furnaces of Pittsburgh, Pittsburgh with the manufacturing cities of the plains, Chicago with the Corn Belt, the Corn Belt with the copper country, and the copper country with the western steamship lanes.

This is a modern road, and every mile of it shrieks proof of its modernity. Sixteen miles from the nearest village green the jazz band of a roadhouse syncopates the night. Steel towers carrying cables on their shoulders strut off across the countryside with two hundred thousand volts of electric energy from distant power plants for factory towns. California bungalows line the roads of Iowa and Pennsylvania with screened-in porches and wrought-iron pots for mail. Antennæ wigwag from ten thousand chimneys. Speed traps, tea rooms, open-air canteens with panoramic views and the loop-the-loops of roadside Coney Islands crowd soap factories and paper mills for elbow room. And out on the edges of a hundred cities where a pipeful of running water, a mighty litter of discarded lunch boxes, and a canvas banner flapping in the breeze pro-

claim the presence of a roadside Tourist Camp parks a vast army of motor cars whose tired owners are content to sleep in the rain, fight bats and mosquitoes in the night, wash their faces in collapsible canvas buckets and cook their breakfasts on tin forks, provided only that the freedom of the road is theirs, God grants them sunshine on the morrow, gas sells for twenty cents a gallon, the tires are good for another six or seven hundred miles, and in a civilization that has conquered time and space they can follow the long trail of the covered wagons.

If this road of Valley Forge and Brandywine is a page torn out of the history of America before the age of motor travel it is a fair cross-section of the world in which a hundred million people work and play.

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It is a great place or a poor place—this new America—an inspiration or a challenge, a land of rich contentment or a world of drab routine. We take it as we wish to take it, with all its haste and fury, its unflagging energy, its loose hold on tradition, and its buoyant faith in its own future.

We can believe that with its wealth and power America now bears the torch of an advanc-

ing civilization, lighting the way into a modern world in which science has made men masters of their destiny; or we can see in this same America only a warning against a ledger-and-smokestack civilization which has made men guardians of dollars or weary slaves to their machines.

We can believe that this is the same brave land of unbounded opportunity that beckoned to the world in the days when land in the West was free and the hilltops called to the pioneer; or we can believe that for the mass of men opportunity has gone by the board in an age of machine processes and factory production.

We can see in the eagerness with which millions of Americans acquire the bright gadgets of the modern scene a telltale emphasis on mere materialism; or we can believe that the whole movement of American life leads through a conquest of material environment to a discovery of more distant goals.

We can see in America the birthplace of new forms of art, new schools of thought, and new means of self-expression; or we can see in it only the hurried give-and-take of a slapdash civilization, high-strung, undisciplined, and confused by the din of its own efforts.

In the phenomena of American life there is

enough material for every man to make out a case for his own convictions. But whatever we say of the new America in which we live, at least we start with this: it is a brand-new America, and there is no section of the broad highway that leads from the New Jersey hills to San Francisco Bay over which a whole new layer of culture has not been spread within the memory of a generation of Americans still living.

The triumph of the urban culture that has swept remorselessly across the countryside is the triumph of modern transportation. The prowess of the giant mills that have changed the habits of the nation with an avalanche of low-priced goods is built upon new methods of production which have been perfected only to be thrown aside for methods newer still. The standards of American life, the criteria by which each change is judged, the rules of thumb that once seemed everlasting principles, have been wrenched loose from their accustomed moorings by the progress of experimental science. The milestones on the open road, the tourist camps and traffic jams and Spanish roofs and super-power lines that reach across the nation in an endless panorama are upstarts even in a land of innovation.

Tirelessly the old gives way to make room for

the new. Tirelessly a young nation spends its reckless energy rebuilding. This is America, Model 1929, and there is little left of the old America of 1863 that stood between two frontiers, or even of the America of 1899 that rubbed its eyes in the bright dawn of an age of motors.

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No one man built this new America. No one man fashioned its enthusiasms or led it helter-skelter along the road from 1863 to 1929. But some men have left their mark on it, and other men have made themselves the symbols of its headlong change from old to new.

What the ultimate significance of Henry Ford will be is a question for the gods to answer. What successes or what failures even the next few years will bring him must be left to the headlines of another morning. But that here is an American who has left his imprint on the world in which he lives, the landmarks of this new America afford convincing proof.

If this is a new America of towering wealth, here is a man who started with empty hands and amassed the greatest of all fortunes. If this is a new America which has achieved unity and like-mindedness, here is a man who has given it wheels on which to travel and so helped rid it

of its last frontier. If this is a new America of vast energy and an indomitable will to go somewhere, here is a man who has broadened the orbit of its interests, defied its precedents, challenged its history, collected its antiques, enriched its folklore and remade its legends.

Part way on its dizzy ride from 1863 to 1929 America has looked out over a nickel-plated radiator stamped with the name of Henry Ford.

THE END

